

International Economic Law and the Digital Divide

ELGAR INTERNATIONAL ECONOMIC LAW

Series Editors: Alan O. Sykes, *Frank and Bernice J. Greenberg Professor of Law, University of Chicago Law School, US*, and Mary E. Footer, *Professor of International Economic Law, University of Nottingham, UK*

This new monograph series is intended to provide a point of convergence for high quality, original work on various aspects of international economic and WTO law, ranging from established subject matter, such as international agricultural trade or the application of core trade disciplines such as MFN, to cross-cutting issues involving the interaction of international standards in the fields of investment, tax, competition, food safety and consumer protection with international trade law or the relationship of horizontal exceptions such as the general exception to domestic regulatory barriers. Theoretically rigorous, these books will take an analytical and discursive approach to the field, wherever possible drawing on insights from disciplines other than law, such as economics and politics in an attempt to arrive at a genuinely inter-disciplinary perspective. Proposals are encouraged that primarily engage with new and previously under-developed themes in the field, or alternatively offer an innovative analysis of areas of uncertainty in the existing law.

Bringing together work from both established authors – academics and practitioners alike – and from a new generation of scholars, the Elgar International Economic Law Series aims to play an important role in the development of thinking in the field.

International Economic Law and the Digital Divide

A New Silk Road?

Rohan Kariyawasam

*BSc (Eng.), Dip. LP, Fulbright Cert. (Harvard), Solicitor (UK),
FRSA, Director Program in Information Technology, Media and
E-Commerce Law and Member of the Human Rights Centre,
University of Essex, UK*

ELGAR INTERNATIONAL ECONOMIC LAW

Edward Elgar

Cheltenham, UK • Northampton, MA, USA

© Rohan Kariyawasam 2007

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical or photocopying, recording, or otherwise without the prior permission of the publisher.

Published by
Edward Elgar Publishing Limited
Glensanda House
Montpellier Parade
Cheltenham
Glos GL50 1UA
UK

Edward Elgar Publishing, Inc.
William Pratt House
9 Dewey Court
Northampton
Massachusetts 01060
USA

A catalogue record for this book
is available from the British Library

Library of Congress Cataloguing in Publication Data

Kariyawasam, Rohan, 1965–

International economic law and the digital divide : a new silk road? /
Rohan Kariyawasam.

p. cm.—(Elgar international economic law series)

Includes bibliographical references and index.

1. Internet—Law and legislation. 2. Data transmission systems—Law and
legislation. 3. Technology transfer—Law and legislation. I. Title.

K4315.K37 2007

343.09'944—dc22

2006023099

ISBN 978 1 84376 802 9 (cased)

Typeset by Cambrian Typesetters, Camberley, Surrey
Printed and bound in Great Britain by MPG Books Ltd, Bodmin, Cornwall

For Sumedho and Pasanno.

Charity almost always does too much or too little: it lavishes its bounty in one place, and leaves people to starve in another.

John Stuart Mill (1848)

Contents

<i>Preface</i>	xiii
<i>List of abbreviations</i>	xv
<i>Table of national acts, EC directives, regulations and notices</i>	xviii
<i>Table of international treaties, conventions, conferences</i>	xx
<i>Table of cases</i>	xxi

PART I OVERVIEW

1 Introduction and overview	3
1.1 Introduction	3
1.2 Limitations	12
2 The rise of international digital networks: defining the digital divide	18
2.1 Introduction	18
2.2 A brief overview of the evolution of the infrastructure of the internet	19
2.3 The Digital Divide	24
2.3.1 Internet diffusion/access	26
2.3.2 IT penetration	28
2.3.3 Alternative development	30
2.3.4 Civil and political rights and ESCR	32
2.3.5 Competition and telecommunications policy	34
2.3.6 Innovation	37
2.4 Conclusion	38

PART II THE REGULATION OF TECHNOLOGY PROCESSES

3 International telecommunications	43
3.1 Introduction	43
3.2 The ITU	47
3.2.1 Cooperation Agreement between the ITU and WTO	49
3.2.2 Accounting rates and new modes of operation	50
3.2.3 Interconnection	54
3.2.4 VoIP	57

3.3	The WTO	59
3.3.1	Classification of telecommunications issues	65
3.3.2	Network-based transactions and complimentary services	68
3.3.3	Electronic intangibles	70
3.4	Developments in multilateral telecommunication measures	71
3.4.1	Annex on Telecommunications and the Reference Paper	72
3.4.2	The Reference Paper in light of <i>Mexico-Telmex</i>	75
3.4.3	Internet interconnection	80
3.4.4	ITU Recommendation D.50 and the APEC Principles	84
4	Overview of the European regulatory framework for electronic communications markets	87
4.1	Introduction	87
4.2	The European Commission's (EC's) new regulatory framework for electronic networks and services ('New Framework')	89
4.2.1	Objectives	89
4.2.2	Instruments	89
4.2.3	Significant market power	91
4.3	Conclusion	94
5	A new layering theory for regulating communications networks and services?	95
5.1	Introduction	95
5.2	The Layered Policy Model	96
5.2.1	The United States	97
5.3	A new regulatory framework for TCP/IP networks?	100
5.3.1	Relevant product and geographic markets	104
5.3.2	Market Share	109
5.4	The Layering Theory and SMP reinterpreted	111
5.4.1	Applying the Layering Theory at the multilateral level	115
6	The classification of electronic intangibles in the WTO	118
6.1	Introduction	118
6.2	Why be concerned with classification?	119
6.3	Structural differences between the GATT and the GATS	123
6.3.1	Most favoured nation	125
6.3.2	National treatment	128
6.3.3	Quantitative restrictions	129

6.3.4	Customs duties	132
6.3.5	Modes of supply	135
6.4	Establishing a legal framework	139
6.4.1	Legal/economic rules for distinguishing between goods and services	140
6.4.2	The principle of trade neutrality	145
6.4.3	The principle of technological neutrality	147
6.4.4	The principle of progressive trade liberalisation	148
6.5	The position of the United States and the European Communities on the classification of electronic intangibles	148
6.6	US-Gambling	155
6.7	Conclusion	158

PART III DEVELOPING COUNTRIES

7	Developing countries and telecommunications	165
7.1	Introduction	165
7.1.1	Background	166
7.2	Developing countries, the Reference Paper and the Layering Theory	168
7.3	Using the new modes of operation in ‘reverse’	175
7.4	Recommendation D.50 and packet-switched networks	178
7.5	Classification of telecommunications services in the next trade round	181
7.6	World Summit on the Information Society	182
8	Technology transfer to developing countries	192
8.1	Introduction	192
8.2	The position of developing countries	194
8.2.1	Acquisition of skills and know-how	196
8.2.2	Access to document-embodied knowledge	199
8.2.3	Acquisition by importation and business partnerships	200
8.3	Foreign direct investment	202
8.3.1	FDI internalised/externalised transfers	203
8.3.2	FDI horizontal/vertical	206
8.3.3	Spillover	209
8.4	Unbundling the IPR package	211
8.5	Technology transfer at the multilateral level	218
8.6	International investment agreements and technology transfer	222
8.7	Conclusion	225

9	Bilateralism and intellectual property rights	234
9.1	Introduction	234
9.2	Performance requirements	235
9.3	Implications for development	245
9.4	Regional and bilateral arrangements	247
9.5	Ratcheting up IP protection through bilateral/FTA arrangements	249
10	International development	252
10.1	Introduction	252
10.2	Outline of the evolution of development theory	256
10.2.1	Modernisation, law and development	256
10.2.2	Constructing development in practice	257
10.2.3	Outline background to the UN right to development	260
10.2.4	Opposition to the right to development	262
10.3	ICTs and development	265
10.4	Economic development	273
10.4.1	The US Millennium Challenge Account (MCA)	274
10.4.2	The UK Commission for Africa and the European Consensus	276
10.5	Enforcing the RTD through International Economic Law	280
10.5.1	The economic right to development theory	282
10.5.1.1	The RTD and collective rights	283
10.5.1.2	The RTD and economic law	287
10.5.1.3	Obligations at the domestic (target state) level	291
10.5.1.4	The legal obligation	292
10.5.1.5	Right to development tax relief	295
10.5.1.6	Linking the RTD with economic growth (GDP) and FDI	298
10.5.1.7	Equation 5, the link between FDI, GDP and the RTD	302
10.6	The RTD Development Compact	305
10.7	The WTO and the RTD Tax Relief	307
PART IV	CONCLUSION AND ANNEX	
11	Conclusion	321
11.1	Introduction	321
11.2	Response to the questions	322

11.2.1	Second question	322
11.2.3	Third question	337
11.3	Concluding thoughts	346
Annex 1	A new reference paper for bits and bytes	354
	<i>Bibliography</i>	358
	<i>Index</i>	369

Preface

The failure of the trade negotiations at Seattle and the almost collapse of the negotiations at Doha has brought increased attention to the issue of development, aid, and the implementation of special and differential rights in favour of developing countries. This book looks to examine one aspect of the many issues facing developed and developing countries in the negotiations that lie ahead, specifically how international economic law can be used in the application of technological processes to help address the Digital Divide.

At present, there is an emphasis on development and the needs of developing countries, and that such development needs to be *sustainable*. There is also greater attention to the role that Information Communications Technologies (ICTs) can play in helping to enforce basic human rights. It is widely recognised now that ICTs can help support the achievement of several of the *Millennium Development Goals* (MDGs), such as reducing poverty, improving literacy and healthcare. The eradication of poverty will be dependent on sustainable growth. Research reviewed in Chapter 2 indicates that growing information technology levels leads to growth of gross domestic product (GDP). Also, by broadening the availability and quality of educational material and improving educational administration and policy, ICTs can help support the development of primary education. ICTs can also help improve healthcare provision by providing channels for the provision of treatment, consultation and diagnosis. By making positive attempts to reduce the Digital Divide, Developing Countries (DCs) and Least Developing Countries (LDCs) will be in a better position to access the technology required to address the MDGs. The book poses three questions. The first asks what are the sectors in International Economic Law (IEL) that relate to the Digital Divide? Part I of the book covering Chapters 1 and 2 sets out the context of IEL and the Digital Divide. The second question asks how the sectors identified in Part I are regulated and whether current regulation can be improved to help address the Digital Divide. The international regulation of technology processes is covered in Part II of the book (Chapters 3–6). Chapter 5 in particular, sets out a new *Layering Theory* that could help address the Digital Divide. By applying the Layering Theory at the multilateral level, amending the World Trade Organisation's (WTO's) regulatory Reference Paper, the author argues that operators in the developing world will be able to gain access to international backbone internet networks at cost price, one of the main impediments to

reducing the Digital Divide. Part III on developing countries (Chapters 7–10) discusses in detail how rules of IEL (telecommunications, IP, trade, competition, and development) regulating technological processes impact DCs and LDCs. Chapter 7 discusses the regulation of telecommunications from the perspective of DCs and LDCs. Chapter 8 discusses how DCs and LDCs can maximise their access to technology through technology transfer and Foreign Direct Investment in order to innovate so as to export to markets overseas (mainly OECD markets), and Chapter 9 describes the legislative web and hierarchical restrictions that DCs and LDCs face in the context of bilateral investment agreements, RTAs and FTAs.

However, the eradication of poverty and the improvement of basic living standards in some of the least developed countries of the world cannot happen without such states also giving greater effect to the enforcement of civil and political rights, and economic, social and cultural rights (ESCR) ‘at home’. Chapter 10 attempts to address the last of the three questions posed by the book, specifically whether it is possible to define a relationship in IEL between civil and political rights and ESCR as a collective for example in the form of the much debated and somewhat controversial *Right to Development* (the ‘RTD’ as defined in this book) on the one hand, with the Digital Divide on the other? And if such a link does exist, how can the RTD be enforced to help address the Digital Divide?

I should like to end by saying that this project could not have been completed without the kind patience of my family, and to the generous support of staff at Edward Elgar Publishing, including the desk editor Kate Emmins, Nep Elverd, and Luke Adams.

Rohan Kariyawasam
August 2006

Abbreviations

Aid for Trade (AfT)
Appropriate Technology (AT)
Asia Pacific Economic Cooperation (APEC)
Basic Telecommunications Agreement (BTA)
Build Operate Transfer (BOT)
Commission on Intellectual Property Rights (CIPR)
Comprehensive Development Framework (CDF)
Department for International Development (DFID)
Developing Countries (DCs)
Dispute Settlement Body (DSB)
Doha Declaration on TRIPS and Public Health (Declaration)
Economic, Social and Cultural Rights (ESCR)
Environmentally Sound Technologies (ESTs)
European Commission (EC)
Federal Communications Commission (FCC)
Foreign Direct Investment (FDI)
Free and Open-Source Software (FOSS)
Free and Open Source Software Foundation for Africa (FOSSFA)
Free Trade Agreements (FTAs)
G90 (WTO Coalition of developing countries)
General Agreement on Tariffs and Trade (GATT)
General Agreement on Trade in Services (GATS)
General System of Preferences (GSP)
Global Business Dialogue (GBDe)
Global Trade Facility (GTF)
Hypertext Transfer Protocol (HTTP)
Intellectual Property Rights (IPRs)
International Backbone Providers (IBPs)
International Covenant on Civil and Political Rights (ICCPR)
International Covenant on Economic, Social and Cultural Rights (ICESCR)
International Economic Law (IEL)
International Investment Agreement (IIA)
International Monetary Fund (IMF)
International Private Leased Circuits (IPLCS)
International Telecommunications Regulations (ITRs)

International Telecommunications Union (ITU)
Internet Corporation for Assigned Names and Numbers (ICANN)
ITU Radiocommunications (ITU-R)
ITU Telecommunication Development (ITU-D)
ITU Telecommunication Standardisation (ITU-T)
ITU World Administrative Telegraph and Telephone Conference (WATTC-88)
Least Developing Countries (LDCs)
Millennium Challenge Account (MCA)
Millennium Challenge Corporation (MCC)
Millennium Development Goals (MDGs)
Most Favoured Nation (MFN)
Multilateral Agreement on Access to Basic Science and Technology (ABST)
Multilateral Investment Guarantee Agency (MIGA)
Multinational Corporations (MNCs)
Multinational Enterprises (MNEs)
National Development Strategy (NDS)
National Regulatory Authorities (NRAs)
New Growth Theory (NGT)
New International Economic Order (NIEO)
Non-Aligned Movement (NAM)
Official Development Assistance (ODA)
Organisation for Economic Cooperation and Development (OECD)
Other Licensed Operators (OLEOs)
Permanent Sovereignty over Natural Resources (PSNR)
Public Switched Telephony Network (PSTN)
Public Telecommunications Operator (PTO)
Regional Trade Agreements (RTAs)
Regulatory Reference Paper (RRP)
Right to Development Tax Relief (RTD Tax Relief)
Right to Development Theory (RTD Theory)
RTD-Development Compact (RTD-DC)
Special and Differential Rights (S&D)
Structural Adjustment Programs (SAPs)
Technical Barriers to Trade Agreement ('TBT Agreement')
Technology Transfer Block Exemption (TTBE)
Trade Related Intellectual Property Rights Agreement (TRIPS)
Transfer of Technology Code (ToT Code)
Transmission Control Protocol/Internet Protocol (TCP/IP)
Transnational Corporations (TNCs)
UN Declaration on the Right to Development (RTD)
United Kingdom's Department for International Development (DFID)
United Nations Conference on Trade and Development (UNCTAD)

United Nations Development Program (UNDP)
United Nations Industrial Development Organisation (UNIDO)
United Nations Right to Development (RTD)
United Nations University Institute for New Technologies (UNNINT)
US Digital Millennium Copyright Act 1998 (DMCA)
Very Small Aperture Terminals (VSAT)
Voice over Internet Protocol (VoIP)
WIPO Copyright Treaty (WCT)
WIPO Performance and Phonograms Treaty (WPPT)
Working Group on the Relationship Between Trade and Investment (WGTI)
World Administrative Telegraph and Telephone Conference (WATTC)
World Association of Investment Promotion Agencies (WAIPA)
World Bank (WB)
World Customs Organisation (WCO)
World Intellectual Property Organisation (WIPO)
World Summit on the Information Society (WSIS)
World Telecommunication Policy Forum (WTPF)
World Trade Organisation (WTO)
WTO Agreement on the Application of Sanitary and Phytosanitary Measures
WTO Dispute Settlement Body (DSB)
WTO's Working Group on Trade and Transfer of Technology (WGTT)

Table of national acts, EC directives, regulations and notices

African Growth Opportunities Act 2000	245
Brussels Regulation (Council Regulation 44/2001)	138
Commission Communication on VoIP OJ C369, 22.12.2000	59
Commission Notice 2004/C 101/02 (April 2004)	209
Commission Regulation (EC) No. 802/2004, April 2004	209
Commission Regulation 772/2004 (April 2004)	209
Council Directive 89/552/EEC (as amended by Council Directive 97/36/EC)	120, 126, 128, 151, 154
Directive (as amended) Directive 77/388/EEC	121, 127, 134
Directive 87/54/EEC	218
Directive 89/552/EEC (as amended)	120, 126, 128, 151, 154
Directive 90/388/EEC	59
Directive 91/250	207
Directive 92/44 (annulled)	92
Directive 97/13 (annulled)	92
Directive 97/33 (annulled)	91, 92
Directive 97/36/EC	120, 154
Directive 98/10 (annulled)	92
Directive 98/34/EC	90
Directive 98/48/EC	90
Directive 2000/31/EC	127, 153
Directive 2002/19/EC	55, 89, 107, 227
Directive 2002/20/EC	89, 90, 114
Directive 2002/21/EC	74, 89, 91, 104, 110, 114, 217, 227, 228
Directive 2002/22/EC	58, 107
Directive 2002/38/EC	127, 134, 153
Directive 2002/58/EC	90
Directive 2002/77/EC	90
EC Merger Regulation (EC) No. 139/2004	209
European Copyright Directive 2001/29/EC	243
European Council Decision 94/828/EC	218
Singapore Copyright (Amendment) Bill 2004	207
Technology Transfer Block Regulation EC 772/2004	209, 217, 227

US Clayton Act	88, 108, 209
US Digital Millennium Copyright Act (DMCA) 1998	207, 241, 243
US Sherman Act	88, 108, 209
US Telecommunications Act 1996	26, 38, 59, 81, 91, 97–8, 180
US Trade Act 1974	240
US Trade Act 2002	240–43, 250, 272, 296, 329
US Uruguay Round Agreements Act (19 USC 3511(d)(15))	240

Table of international treaties, conventions, conferences

Convention of International Telecommunication Union (ITU Convention)	43
Conventions on Satellites	43
EC Treaty of Rome	74, 80, 209, 214, 217
General Agreement on Tariffs and Trade (GATT)	<i>see under</i> European Commission in index
General Agreement on Trade in Services (GATS)	<i>see under</i> European Commission in index
Information Technology Agreement (ITA)	125, 155, 162, 168, 188, 189, 218
Intelsat Agreement 1971	43
International Covenant on Civil and Political Rights (ICCPR)	262, 280
International Covenant on Economic, Social, and Cultural Rights (ICESCR)	243, 262, 292–4
Limburg Principles	292–3
Outer Space Treaty 1967	43
Paris Declaration on Aid Effectiveness 2005	259
Trade Related Intellectual Property Rights Agreement (TRIPS)	25, 123, 139, 201 <i>see under</i> TRIPS in index
United States Free Trade Agreements:	
<i>US–Australia</i> (2004)	236
<i>US–Central America Free Trade Agreement</i> (CAFTA-2004)	236
<i>US–Chile</i> (2003)	236
<i>US–Jordan</i> (2000)	62, 236, 238
<i>US–Morocco</i> (2004)	236
<i>US–Singapore</i> (2003)	236
Washington Treaty on Intellectual Property in Respect of Integrated Circuits (1989)	218
WIPO Copyright Treaty (WCT)	139, 238
WIPO Performances and Phonograms Treaty (WPPT)	139, 238
World Administrative Telegraph and Telephone Conference (WATTC)	43, 48

Table of cases

<i>AOL/Time Warner</i> COMP/M.1845, 11.10.2000	108
<i>BT/Esat</i> COMP/M.1838, 27.3.2000	108
Case 173/73 <i>Commission v. Italy</i> [1974] ECR 709	15, 131, 295
Case 27/76 <i>United Brands v. Commission</i> ECR (1978)	74, 83, 91
Case C-39/94 <i>Syndicat Français de l'Express International (SFEI) v. La Poste</i> [1996] ECR I-2547	15, 131, 295
Case COMP/C-3/37.792	88, 108
Case T-228/97 <i>Irish Sugar plc v. Commission</i> [1999] 5 CMLR 1300	110
Cases C-278-280/92 <i>Spain v. Commission</i> [1994] ECR I-4103	15, 132, 296
<i>Dell Computer</i> 121 FTC 616 (1996)	219
<i>European Night Services</i> Decision 94/663, [1994] OJ L259/20	74
<i>Lotus v. Paperback</i> (28 June 1990 740 F Supp 37)	206
<i>Magill</i> Joined cases C-241/91P and C-242/91P	74, 214
<i>NEC Corporation v. Intel Corporation</i> 67.434 ND Cal 6 February 1989	207
<i>Oscar Bronner v. MediaPrint</i> Case C-7/97	74, 83
<i>Rambus v. Infineon Technologies AG</i> , No. Civ. A. 3:00CV524 (2001)	219
<i>Roche Products, Inc. v. Bolar Pharmaceutical Co</i> (1984)	248
<i>Sea Containers v. Stena Sealink</i> Commission decision OJ 1994 L15/18	74
<i>Telia/Telenor</i> COMP/M.1439	108
<i>Telia/Telenor/Schibsted</i> Case No. IV/JV.1, 27.05.1998	108
<i>UGC/Liberty Media</i> COMP/M.2222, 24.04.2001	108
<i>United States of America v. Microsoft Corporation</i> (364 US App DC 330)	88, 108
<i>United States v. El du Pont de Nemours & Co.</i> 118 F Supp 41 (D Del 1953) aff'd US 377 (US Sup Ct 1956)	112
WTO cases:	
<i>Canada – Certain Measures Concerning Periodicals</i> , WT/DS31/AB/R (30 June 1997)	143
<i>European Communities–regime for the importation, sale and distribution of bananas–complaint by the United States</i> , WT/DS27/R/USA	126, 144, 153

<i>European Communities – measures affecting asbestos and asbestos-containing products, WT/DS135/AB/R (April 2001)</i>	156
<i>European Communities – regime for the importation, sale and distribution of bananas – complaint by the United States, WT/DS27/AB/R (Appellate Body)</i>	126, 144, 153, 180
<i>Japan – Taxes on Alcoholic Beverages (Japan – Alcohol AB Decision), WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R</i>	125, 145–6
<i>Korea – measures affecting imports of fresh, chilled and frozen beef, WT/DS/161/AB/R, WT/DS/169/AB/R (January 2001)</i>	158
<i>Mexico – Measures Affecting Telecommunications Services, DS204 (1 June 2004)</i>	44, 45–6, 51, 54, 64, 71, 75–80, 171, 174, 179–80, 336
<i>United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services: Report of the Appellate Body, WT/DS285/AB/R (April 2005)</i>	69, 119, 148, 155–7, 162, 182, 324

PART I

Overview

1. Introduction and overview

1.1 INTRODUCTION

The noted international trade lawyer and legal jurist John H. Jackson once defined international economic law as embracing ‘trade, investment, services when they are involved in transactions that cross national borders, and those subjects that involve the establishment on national territory of economic activity of persons or firms originating from outside that territory’.¹ He left out competition, although it can be argued that competition by its nature would be encompassed indirectly by reference to ‘economic activity’. The failure of the trade negotiations at Seattle, and the collapse of the negotiations at Doha, have brought increased attention to the issue of international economic law and development, specifically, the implementation of special and differential rights in favour of developing countries. This book examines one aspect of the many issues facing developed and developing countries in the negotiations that lie ahead: how *International Economic Law* (IEL) can be used as an instrument in the regulation of technological processes to help address the Digital Divide.

In Jackson’s terms, IEL would include a combination of Public International Law as well as including all branches of law concerned with international economic issues.² Subedi has defined IEL as including ‘a vast array of topics ranging from public international law of trade to private international law of trade to certain aspects of international commercial law and the law of finance and investment’.³ Atik similarly speaks of IEL as including monetary law, competition, intellectual property and law and development.⁴ The American Society of International Law defines IEL as encompassing

¹ Jackson, J., *The World Trading System*, MIT Press, 1989, pp. 21–2.

² See also Qureshi referring to Jackson in ‘Perspectives in International Economic Law – An Eclectic Approach to International Economic Engagement’ in *Perspectives in International Economic Law* (ed. Asif Qureshi), Kluwer Law International, 2002, p. 19.

³ Subedi, S.P., ‘Sustainable Development Perspectives in International Economic Law’ in *ibid*, p. 262 (footnote 9).

⁴ Atik J., ‘Introductory Essay: Uncorking International Trade, Filling the Cup of International Economic Law’, *American University International Law Review* 15(6) (2000) 1231–47 at 1232.

international trade law, international economic integration law, private international law, international business regulation (including competition law), international financial law (including FDI), law in development, international tax law, and international intellectual property law.⁵ In his thought-provoking book *Perspectives in International Economic Law*, Qureshi poses three questions as critical to the understanding of IEL:⁶ (i) what interests does IEL serve?; (ii) what interests drive it?; and (iii) what interests exist in international economic relations? He argues ‘that the questions most focused upon and often evocative are the ones which centre on the interests that drive IEL, and the interests it serves’.⁷ This would include the decision-making practices of international economic organisations and the influence of the role of Transnational Corporations (TNCs) and developed economy States in shaping international economic relations. According to Qureshi, an under-explored area of IEL would be the international economic interests that exist in international economic relations. Exploring this area would be the most ‘critical to the complete and wholesome development of the international economic order’.⁸ This book does not attempt to do that, the scope of such an undertaking would be well beyond its boundaries, but it does seek to cover at least in part the issue that Qureshi is addressing and by looking at a specific sector of IEL, that of technology and international development, specifically the Digital Divide. In regulating technology, States use a combination of *ex-ante* or sector-specific (telecommunications) measures, merger regulation and *ex-post* measures, such as competition law. Also included within the umbrella of IEL is the regulation of property rights, specifically intellectual property and the balance to be achieved between innovation and control of monopoly. As outlined above, all these issues can safely fall under the umbrella of IEL. Also falling under the same umbrella is international development law, and this book is primarily concerned with the use of technology in international development specifically in the context of Developing Countries (DCs) and Least Developing Countries (LDCs).

There is in current thinking an emphasis on development and the needs of developing countries, and that such development needs to be *sustainable*.⁹

⁵ See website of the International Economic Law group at http://www.fletcher.tufts.edu/inter_econ_law/ielgm.html, date accessed August 2005.

⁶ *Supra* note 2 at p. 11.

⁷ Qureshi, A., ‘Perspectives in International Economic Law – An Eclectic Approach to International Economic Engagement’ in *Perspectives in International Economic Law* (ed. Asif Qureshi), Kluwer Law International, 2002, p. 19.

⁸ *Ibid.*

⁹ The concept of sustainable development was introduced at the *World Commission on Environment and Development*, where sustainable development was defined as ‘development that meets the need of the present without compromising the

There is also greater attention to the role that Information Communications Technologies (ICTs) can play in helping to enforce basic human rights. It is widely recognised now that ICTs can help support the achievement of several of the *Millennium Development Goals* (MDGs),¹⁰ such as reducing poverty, improving literacy and healthcare. The eradication of poverty will be dependent on sustainable growth. Research reviewed in Chapter 2 indicates that growing information technology levels leads to growth of GDP. Also, by broadening the availability and quality of educational material and improving educational administration and policy, ICTs can help support the development of primary education. ICTs can also help improve healthcare provision by providing channels for the provision of treatment, consultation and diagnosis.¹¹ By making positive attempts to reduce the Digital Divide, DCs and LDCs will be in a better position to access the technology required to address the MDGs. *The World Summit on the Information Society* (WSIS) conducted in two phases in Geneva (2003) and then Tunis (2005) has set an agenda for addressing the Digital Divide as between developed and developing countries, and making ICTs a central part of an overall process of development. The WSIS is discussed in Chapters 7 and 9 of this book.

At the international level, developing countries will increasingly encounter problems with interconnecting with the digital backbone network of the internet. Controlled by powerful (mainly) developed country operators, the risk that costs for access and interconnection will increase with time perhaps on a non-discriminatory and non-transparent basis is high. Increased access prices will inevitably be passed down the chain to domestic DC/LDC ISPs and in turn to end-users in these countries, accelerating the Divide (for a more complete discussion of the implications of internet interconnection for DCs/LDCs see Annex G of the *DFID Internet Costs report*, compiled by the author and referenced at note 16 below, and also his chapter on 'Interconnection Access and Peering: Law and Precedent' in *Telecommunications Law*, referenced at note 20 below). There is recognition now in the developed world that as data surpasses voice, interconnection of internet networks should be regulated. Increased market access by DC and LDC operators into OECD markets for electronic intangible products will be crucially dependant on equitable interconnect and access to the underlying backbone infrastructure. Both the WTO and ITU will have a role to play here.

ability of future generations to meet their own needs': World Commission on Environment and Development (WCED), *Our Common Future*, Oxford: Oxford University Press, 1987 at p. 8. Approved by UN General Assembly Resolution GA 187, 42 UN GAOR (96th plenary meeting) UN Doc. A/42/821 Add.5 (1987).

¹⁰ Discussed in Section 10.4.2.

¹¹ UNCTAD, *Information Economy Report*, 2005, pp. xvi–xvii.

In fact, we are seeing the increased convergence of international institutions, such as the WTO and ITU in the area of technology and development (discussed in Chapter 3). The ITU has recently published *The Internet of Things*¹² to give us a perspective of how technology can be used by developing countries in the future to help expand trade with developed countries, for example in the use of radio frequency identification sensor technology to track shipments of beef to the European Union to verify their origin. One aim of such technology could be to improve market access into mainly OECD markets for products sourced from developing nations. Another aim might be to help enforce rules of origin under the GATT (Chapter 6). Also, the Doha Sixth Ministerial Conference in Hong Kong completed with the publication of the Sixth Ministerial Declaration in December 2005. The Doha Round was termed the ‘Development Round’. With the outcome of the Doha talks still to be determined we will have to wait and see whether commitments to technology transfer (for example under Article 66.2 TRIPS) and the enforcement of special and differential rights to DCs and LDCs will have any meaningful outcome (Chapter 8).

Given these developments on the global stage and the sometimes ‘fuzzy’ nature of the recommendations and goals that multilateral negotiations inevitably produce, the aim of this book is to give greater clarity in terms of the operation of IEL as it relates to the high technology sector and how such law can help address the Digital Divide. The idea is to review current law and provide specific recommendations for change. The book seeks to define those areas in IEL that are crucial to the Digital Divide, including: regulation of international telecommunications; information technology; competition law; intellectual property law; the trade in digital goods and services; and international development. Current international regulation in these areas is assessed at a (mainly) multilateral level, as is how such regulation might be changed to help address Digital Divide issues. Change at the multilateral level or even legislative change in the trade acts of some of the more powerful trading actors, such as the Quad countries of the United States, Canada, Japan and the European Communities, is not sufficient however to address the Divide. Research reviewed in Chapters 2 and 10 indicate that the international Digital Divide between developed and developing nations will not truly be addressed unless and until host (developing) states begin to realise and enforce civil and political rights, and economic, social and cultural rights (ESCR) at home. Addressing the Digital Divide then becomes not just a question of access to appropriate technology through technology transfer licensing or FDI for

¹² See the executive summary at: http://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-IR.IT-2005-SUM-PDF-E.pdf, accessed December 2005.

example, but also a question of encouraging plurality, freedom of expression and unrestricted access to content, subject to the public interest: enforcing human rights at home will help address the Digital Divide. Some would argue that mixing trade with human rights is a bad thing. We need to remind ourselves however, and as mentioned above, that research does exist to link the enforcement of human rights with helping to address the Digital Divide. Also, we have seen that international development can be regarded as one aspect of IEL. This book takes the position that the plans, policies and processes of development should incorporate human rights standards, that is, the objectives of development should incorporate the norms, standards and principles of the international human rights system. If we can regard enforcement of human rights as part of the development process and development as an aspect of IEL, then there needs to be some discussion of the relationship between human rights, trade and development. Chapter 10 (Section 10.7) discusses (in outline) this thorny issue of human rights and trade, and particularly in the context of the UN *Right to Development*. The book raises three questions:

- (i) What are the primary sectors in IEL that relate to the Digital Divide?
- (ii) How are these sectors regulated and how can current regulation be improved to help address the Digital Divide?
- (iii) Is it possible to define a relationship in IEL between civil and political, economic, social and cultural rights as a collective, for example in the form of the much debated and somewhat controversial *Right to Development* (the ‘RTD’ as defined in this book) on the one hand, with the Digital Divide on the other? And if such a link does exist, how can the RTD be enforced so as to help address the Digital Divide?

Chapter 2 addresses the first question; Chapters 3 to 9 the second question, and Chapter 10 the last question. Clearly the first task is to explore what is meant by the term ‘Digital Divide’. The book seeks to apply principles of IEL in addressing the Digital Divide, but without a clear idea of what the term ‘Digital Divide’ means, there can be no foundation upon which to anchor the legal rules. Further, it is necessary to distinguish in law between what is meant by a Developing Country (‘DC’) and Least Developing Country (‘LDC’). Chapter 2 explores these issues, expanding on the concept of IEL and seeking to arrive at working definitions to be used later in the book.

Chapters 3 to 6 are more focused on the international ‘rules of the game’ that regulate international telecommunications networks and also the WTO rules that might apply to the electronic content that will flow *over* these networks (Chapter 6). The next four chapters (7 to 10) are dedicated to reviewing the sectors of IEL that relate to the Digital Divide from the viewpoint of

developing countries. The identification of the applicable laws will be carried out by asking: (i) which of the rules in IEL are designed to *facilitate* international development and address the Digital Divide; (ii) which of the rules in IEL hinder international development and possibly widen the Digital Divide? The majority of the author's recommendations for change are to be found within Chapters 7 to 10. Two of the most significant recommendations are introduced below.

In reviewing the relevant law, the book identifies two major *problems* in using IEL to address the Digital Divide: **(1)** the inadequacy of current telecommunications law in the developed world to regulate advanced telecommunications incumbents who enjoy monopoly power in controlling the international digital (backbone) networks that act as the delivery mechanism for electronic products and services (electronic intangibles), and where effective regulation would facilitate access and interconnection to these networks, and export by DCs and LDCs of electronic intangibles over these networks into developed country (mainly OECD) markets (and vice versa); and **(2)** the lack of international regulation encouraging Transnational Corporations (TNCs), the primary source of technological know-how, to provide beneficial technology transfer to producers in DCs and LDCs.

The author therefore suggests new tools to address these two fundamental legal problems. These include:

- (a) a new *Layering Theory* to be applied at the national level by National Regulatory Authorities (NRAs)/National Competition Authorities (NCCs), at the regional level by the European Commission, and at the multilateral level by the WTO for the regulation of advanced communications networks to address (1) above; and
- (b) a new *Right to Development Theory*, which seeks to link FDI with the RTD both in law and simple economic theory, and which results in the implementation of a *Right to Development Tax Relief* to address problem (2) above.

Chapter 5 introduces a Layering Theory developed by the author for the regulation of electronic networks and services which the author contends will (inevitably) require implementation in regulatory frameworks in developed countries with advanced digital networks within the next five to ten years, if such regulatory frameworks are to effectively regulate for abuse of dominance by undertakings in the provision of advanced electronic networks and services. The author suggests how at the regional level the Layering Theory could at first be incorporated into the EC's new regulatory framework for electronic networks and services (upon which the Layering Theory is based), and then how multilateral instruments, such as the WTO's regulatory Reference Paper,

could in turn be amended in light of the Layering Theory, subject to member state agreement post-Doha. The author also argues that the adoption of the Layering Theory in EC and WTO policy could allow for increased market access by DCs and LDC country operators into developed country communications markets by virtue of the principle of MFN and non-discrimination, and third party access to communications infrastructure. In failing to gain such access on anti-competitive grounds for interconnection and access, the Layering Theory could allow developing country operators who allege discrimination, unfair pricing, abuse of dominance etc., by operators controlling the international internet backbone networks and/or operators in the developed world controlling national telecommunication markets (mainly OECD markets) to lodge complaints to developed country NRAs/NCAs, or as part of dispute resolution at the WTO (similar for example to the interconnection dispute between the US and Mexico in the *Mexico-Telmex* case). The Layering Theory provides for the accurate definition of a relevant market, and only once a market can be defined, can an investigation of abuse of dominance in that market or an anticompetitive agreement to foreclose that market truly commence. The author also argues that the growth in international trade in electronic intangibles in the OECD area could be dramatically influenced by potential new WTO rules on classification of such electronic intangibles (Chapter 6). Chapter 6 envisages an international market for the trade in electronic intangibles (goods and services). The recent WTO Dispute Settlement Appellate Body case *United States – Measures affecting the cross-border supply of gambling and betting services* (April 2005) (*‘US-Gambling’*) creates a crucial precedent for trade in electronic services under mode 1 (cross-border) GATS. *US-Gambling* is discussed in Chapter 6 (Section 6.6).

The second of the two major recommendations is located in Chapter 10, where the author sets out a new *Right to Development Theory*. One of the assumptions of this book is that enforcing civil and political rights, and ESCR will stimulate technology transfer, innovation, and the narrowing of the Digital Divide, effectively generating a ‘positive feedback’ loop. A further assumption is that civil and political rights, and ESCR can all be represented by one *composite* right, the UN Declaration on the *Right to Development* (RTD), and that enforcing the RTD will help address the Digital Divide. However, what does enforcement of the RTD mean? What is the RTD? Is it correct to establish a relationship between the RTD and the Digital Divide? In answering this last question for example, the author refers in Chapter 2 to research indicating the relationship between civil and political rights, and ESCR and the Digital Divide: In Chapter 10, the author argues that these human rights can be represented by one *composite* right, the RTD, a contentious issue given that the United States has never even ratified the RTD. The RTD states that the right to development is a human right. The UN General Assembly through

Regulation 4/128 adopted the RTD on the 4 December 1968. This book assumes that the RTD *can* be classed as a composite right and following this assumption and the evidence of published research linking civil and political rights, and ESCR with the Digital Divide (Chapter 2), the author argues that enforcing the RTD in DCs and LDCs will help address the Digital Divide. The author also recognises that there is disagreement as to the validity of considering ESCR as human rights. Clearly many states regard the right to education, right to health, food and clean drinking water as basic human rights, but for a more complete discussion see the excellent book by James Nickel, *Making Sense of Human Rights* (2nd edition, Blackwell Publishing, 2007).

In linking the RTD with FDI, the author suggests that the RTD can be enforced through a form of national-level tax relief promoting technology transfer, and to do so, he develops the concept of a national measure, the *RTD Tax Relief*. The author argues that one reason for choosing the RTD as an example of a development theory to help address the Digital Divide (as opposed to any of the other theories on development¹³) is that the RTD represents the culmination of efforts by DCs and LDCs over half a century to use international law to encourage developed countries to assist with international development.¹⁴ As such, the RTD is very closely associated with the interests of DCs and LDCs. Furthermore, research exists to link the separate civil and political rights, and ESCR with the Digital Divide, providing a framework for linking the composite RTD with the Digital Divide, provided of course that the RTD *can* be classed as a composite of the separate rights. Chapter 10 reviews the literature both for and against the RTD and evaluates whether, in law, such a right can have justiciability.

This book takes the view that human rights standards should be integrated into the plans, policies and processes of development, and that development is

¹³ For example, the author is not attempting to discuss the many specific theories on development proposed by different financial institutions such as the Bretton Woods institutions (for example, World Bank and IMF), development theories on sustainable development, micro-development, women-centred development, endogenous development, appropriate development, and 'Basic Needs' development etc. For a more complete analysis in general development theory looking at alternative models of development see: *The Right To Development: A Primer*, Sage Publications, 2004; K. de Feyter, *World Development Law: Sharing Responsibility for Development*, Intersentia, 2001; A. Wood, *The ABC of the PRSP*, Bretton Woods Project, 2000; Human Rights Council, *The Rights Way to Development: A Human Rights Approach to Development Assistance*, 2001; S. Skogly, *The Human Rights Obligations of the World Bank and the IMF*, Cavendish Publishing, 2001; A. Sen, *Development As Freedom*, 1999; S.R. Chowdhury (ed.) *The Right To Development in International Law*, Martinus Nijhoff Publishers, 1992.

¹⁴ Gordon, R., and Sylvester, J., 'Deconstructing Development', *Wisconsin International Law Journal*, 22(1) (2004), 3.

part of IEL. In discussing the various sectors of IEL that relate to the Digital Divide, the author draws widely on primary and secondary sources of law, but also on a number of commissioned research studies. The first includes a case study on Jamaica on the use of Information Communications Technologies (ICTs) in development.¹⁵ The case study forms part of research commissioned by the Berkman Centre for Internet and Society (Harvard Law School). The author also draws on additional research carried out by the author in conjunction with Antelope Consulting for the United Kingdom's Department for International Development (DFID) in the area of reducing internet costs in developing countries,¹⁶ and the use of ICTs in Central and Eastern Europe.¹⁷ These studies are mainly discussed in Section 10.3 on ICTs and Development (Chapter 10). Chapter 10 explores the conflicting schools of thought on the appropriate use of ICTs in development, whether to follow modern Western best practice (the 'Modernisation' school) or to follow a system which encourages the use of ICTs at the local community level, and where benefits trickle-up to the national level (the 'Alternative Development' school), and which has its origins in Schumacher's credo, 'small is beautiful'. There is a growing body of thought that current Western best practice which seeks to use modernisation methods of using ICTs to enhance development is now outmoded and should be replaced with Appropriate Technologies (AT) that seek to integrate local community needs with the use of ICTs. The author explores these issues in Chapter 10.

A further assumption of this book is that encouraging DCs and LDCs to take advantage of existing measures in IEL to export electronic intangibles will help such countries address the Digital Divide. However, the conflicting

¹⁵ Kariyawasam, R., *Readiness for the Networked World: Jamaica Assessment* (Jamaica Report), published on-line at <http://cyber.law.harvard.edu/home/2002-01>, vol. 2002-01, pp. 1–65, Harvard Law School.

¹⁶ Kariyawasam, R., Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., *Reducing the Costs for Internet Access in Developing Countries*, Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published on the internet at: <http://www.wesra.com/cost1.htm> (DFID Internet Costs Study).

¹⁷ DFID report, 'Improving the Quality of Transition in Central and South Eastern Europe through Information and Communication Technologies' (hereafter 'ICT Report'), Kariyawasam, R., Lundy, P., Stewart, I., Souter, D., Swain, N., Milne, C., and Garthwaite, N., Antelope Consulting and Commonwealth Telecommunications Office for UK Department for International Development's Central and South Eastern Europe Department, 2000, available on the internet at: http://66.249.93.104/search?q=cache:IK2S4DYh0foJ:www.antelope.org.uk/telecommunications_development/CSEED_report.pdf+CSEED,+antelope+consulting&hl=en&gl=uk&ct=clnk&cd=1&client=firefox-a, accessed April 2006.

view is that DCs and LDCs could end up specialising their export industries to serve the developed world, which would neither be of benefit to developing countries, nor alleviate poverty. These views are discussed in Chapter 7 (Developing Countries and Telecommunications), Chapter 10 (International Development), and further examined in Chapter 11 (Conclusion).

Finally it can be argued that in most developed markets, separate legal rules have emerged for the regulation of goods and services mainly because of the different economic treatment; services generally requiring a direct relationship between supplier and consumer, whereas goods are traded independently of such a relationship.¹⁸ The WTO is no different: the GATT regulates goods and the GATS services. As such, the future trade in electronic intangibles will depend to a great extent on how such intangibles are to be classified in international economic (WTO) law, whether as goods under the GATT, as services under GATS, or even as a form of intellectual property under the TRIPS. As mentioned above and further explored in Chapter 6, the *US-Gambling* case has confirmed the rule of technological neutrality as regards the trade in cross-border services under mode 1 GATS, although no decision has yet been reached on whether the TRIPS, GATS, or GATT should specifically apply. *US-Gambling* confirms that all GATS mode 1 commitments include the electronic form of delivery of the 'like' service. This is an important precedent, as international rules on the movement of electronic intangibles will have a direct effect on the ability of DCs and LDCs to export to relevant markets (developed country, mainly OECD markets). Rules on classification are discussed in Chapter 6.

1.2 LIMITATIONS

In this book, the author makes a number of assumptions primarily to limit its scope to a manageable level, for example that a discussion of policy level issues on economic sovereignty and good governance, although important to the economic well-being of a country, will not be discussed in detail here other than in the examination of state sovereignty in relation to bilateral and free trade agreements. Furthermore, the author will not discuss in detail the vast and complex subject of law and international development, other than in the context of the UN Right To Development as mentioned above. That the RTD can be classed as a composite right of the separate civil and political, economic, cultural and social rights is an assumption, that although argued for

¹⁸ Hill, P., 'Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output', *Canadian Journal of Economics*, 32(2), 1999.

by the (then) UN Independent Expert on the RTD, Arjun Sengupta,¹⁹ has not been universally accepted. However in following this assumption and based on the evidence of published research linking civil and political, economic, social and cultural rights and the Digital Divide, the author argues that enforcing the RTD will help address the divide. The author does not however elaborate on the advantages and/or disadvantages of the different schools of thought as to whether an individual rights-based approach to development is better or worse than for example enforcing the RTD. Both ways will require defining the objectives of development in terms of rights as legally enforceable entitlements, which will mean integrating the norms, standards and principles of the international human rights systems into the plans, policies and processes of development. This work will require human rights impact assessments together with human rights obligations being taken into account at every stage of the development project (needs assessment, project identification, implementation, monitoring and evaluation).

Also not discussed in detail is the role of various IEL institutions, such as the World Bank and IMF, other than as they appear in the context of answering the three main questions posed above, for example in discussing the position of DCs and LDCs in negotiations for the RTD, and in multilateral negotiations on trade and investment. Debt relief and fiscal monetary policy is not covered (for example, the G8 group of major developed countries agreement on debt relief agreed at the Gleneagles Summit in July 2005). In terms of IEL institutions, the focus for discussion remains those institutions and programs central to the regulation of technology and trade, including the WTO, ITU, WIPO, UNDP, UNCTAD, OECD, Asia Pacific Economic Cooperation (APEC), ICANN, the Federal Communications Commission (FCC) in the US and the European Commission. Also discussed in the context of the RTD, is the UN Commission on Human Rights.

The issue of the markets to study within the vast sector of technology and trade is also problematic. There are many markets for export that DCs and LDCs have historically been involved in, including agriculture, commodities, textiles, movement of labour to name a few, but also new markets that such countries are increasingly being drawn to including software and hardware, electronic goods and services, biotechnology, plant products, and semiconductors etc. However, a full investigation of the application of economic law to both the high and low technology sectors would be beyond the scope of this book. The author has focused therefore on the communications sector and specifically

¹⁹ Sengupta, A., 'The Right to Development as a Human Right', 2000, at http://www.hsph.harvard.edu/fixcenter/FXBC_WP7—Sengupta.pdf, accessed September 2005.

the market for electronic intangibles as being most directly linked to the Digital Divide to explore the three broad questions that the book investigates.

In terms of 'Western best practice' in the regulation of the communications sector, the author has looked specifically at EU and US markets, given that these two markets were the first to introduce competition in the delivery of telecommunications services by their national incumbent telecommunication carriers (AT&T in the US, and the various national incumbents, such as BT, France Telecom and Deutsche Telekom in Europe) and on which many of the regulatory regimes of other countries are based.²⁰ Only recently, in the early 1990s did the Japanese government consider detailed regulation to take account of the dominant position that both NTT (domestic market) and KDD (international market) had on Japanese telecommunications markets.²¹ The Layering Theory is based on EU and US telecommunications law and computer science theory, and is the reason why chapters 4 and 5 have been included in this book so as to give the necessary theoretical background to the theory. Note also that the impact of reform of domestic regulation measures under Article VI GATS, particularly on mutual recognition agreements and standards setting in the communications sector, is also an area that needs to be addressed by the WTO, but is beyond the scope of this book.

In developing a new *Layering Theory* (Chapter 5) for the regulation of advanced digital networks, and suggesting how the Layering Theory could be applied to WTO telecommunications measures such as the Reference Paper to the WTO's Fourth Protocol or Basic Agreement on Telecommunications (Chapter 5), the author does not discuss the detailed WTO procedures that would need to be followed in order to bring about suggested amendments to the Reference Paper (the subject of potential further research). The discussion here is restricted by necessity as to the merits of such an amendment in terms of increasing access and interconnection to international backbone internet networks, particularly from the viewpoint of DCs and LDCs, one of the central themes of the book. Also, in developing a new *Right to Development Theory* (RTD Theory) (Chapter 10), the author recognises that to prove the validity of the symbolic equation (*Equation 5*) in IEL that he derives from

²⁰ Kariyawasam, R., 'Interconnection Access and Peering: Law and Precedent', in *Telecommunications Law* (eds Walden, I., and Angel, J.), Blackstone Press, 2001, pp. 153–6. Mention must also be made of the market in New Zealand, where the regulator introduced competition between the incumbent Telecom New Zealand, and Clear Communications. However, the regulation of interconnection in that jurisdiction posed particular problems and long-standing litigation between the two carriers.

²¹ See Fransman, M., 'Evolution of the Telecommunications Industry in the Internet Age' in *Telecoms in the Internet Age From Boom to Bust to?*, Oxford University Press, 2002 for a more detailed explanation of the Japanese fixed and wireless mobile sector and deregulation in that sector since the 1990s.

the other equations already proven and cited, and which indicate a relationship between the RTD and economic indicators, such as FDI and GDP, further empirical research in developing countries that already attract FDI, such as India and China, will be required. Such empirical work however is outside the scope of this book.

In the context of the RTD Theory, which relies on the adoption of national measures in the domestic law of developed countries providing for tax relief to MNCs that offer beneficial technology transfer to DCs and LDCs (discussed in Chapter 10), there may also be issues of *State Aid* which will need to be examined, for example in Europe, under Community competition rules on State Aid found in Articles 87 and 88 EC Treaty and relevant case law specifically defining the meaning of aid in terms of its effect, for example preferential tax treatment (Case 173/73 *Commission v. Italy* [1974] ECR 709) and the application of the ‘market economy investor principle’ as set out in Case C-39/94 *Syndicat Français de l’Express International (SFEI) v. La Poste* [1996] ECR I-2547, and Cases C-278-280/92 *Spain v. Commission* [1994] ECR I-4103. Furthermore, there may be issues of State subsidies at the multilateral level given that the WTO has certain rules (Subsidy Rules under the *WTO Agreement on Subsidies and Countervailing Measures*) on States offering support to private industry. For example under the WTO subsidies agreement, subsidies contingent on the export of *goods* are prohibited. Therefore any tax relief must be contingent on the export of services only, for example technology transfer in the form of know-how and not goods. The analysis of State Aid/WTO subsidy rules is however outside the scope of this book.

In discussing *ICTs and Development* (Chapter 10), the author is not attempting to address the myriad ways in which ICTs can be used, so-called examples of ‘Modernisation theory’²² which would entail a detailed discussion of the many different types of technology and service sectors, and which is beyond the scope of a book in law. Instead the author focuses on assessing the appropriate use of ICTs in development at a *conceptual policy level*: should DCs and LDCs focus on the use of ICTs as a specialist sector or include ICTs in a more integrated way across different sectors (health, education etc.)? To what extent should international donor organisations, such as DFID, UNCTAD and the UNDP be involved with local communities (so-called Alternative

²² Modernisation has been described as ‘the process by which a society comes to be characterized by a belief in the rational and scientific control of man’s physical and social environment and the application of technology to that end’. *Supra* note 14, p. 6, citing Sardar Ziauddin, ‘Development and the Locations of Eurocentrism, in *Critical Development Theory*’, *Contributions to a New Paradigm* (eds Munck, Ronaldo and O’Hearn, Denis), Zed Books, 1999, p. 117.

Development) or national government (following standard Modernisation Theory) in promoting ICTs and development?

Finally, the interface between trade and human rights that the author briefly discusses in Chapter 10 is a very wide area and a full discussion is outside the scope of this book. However, in proposing a RTD Theory that seeks to enforce the RTD through IEL, the author is effectively bringing together principles of IEL (telecommunications, competition, intellectual property, technology transfer) with human rights. There are problems with this approach as Addo comments:

In seeking to review IEL from the human rights perspective, one is often confronted with interesting doctrinal obstacles. There is often the suggestion that human rights belong in the public law domain where the restraint of governmental excesses is its primary if not sole concern. As a corollary, the economic domain is essentially a private domain that is regulated by the principles of the market place and any welfare benefits to individuals and society are only incidental to profit making.²³

Addo argues that the separation of IEL from other disciplines of international law ‘fetishises’ IEL into an untouchable domain, and that this separation and fetishisation are unjustifiable. As mentioned above, a full investigation of trade and human rights is beyond the scope of this book, but in discussing the RTD Theory in Chapter 10, the author does attempt to address (in some aspects) the potential marriage of IEL and human rights, and to provide the historical context in the debate on the RTD. Also in discussing how the RTD Theory could be adopted, in Chapter 11, the author addresses Franck’s discourse on fairness and Leader’s concept of a civic or functional approach to the (potential) role of IEL institutions (such as the WTO) in the area of trade and human rights.²⁴ The reason for this discussion lies in the author’s suggestion that the WTO’s working group on trade and transfer of technology needs (WGTT) to recognise the increasing role of human rights in development and trade and to have an active role in implementing the Right to Development Tax Relief mentioned above.

In the context of setting out the WTO’s potential role to act in helping to

²³ Addo, K.M., ‘Human Rights Perspectives’ in *Perspectives in International Economic Law* (ed. Asif Qureshi), Kluwer Law International, 2003, p. 146, citing Friedman, M., ‘The Social Responsibility of Business is to make Profits’ in *Issues in Business and Society* (ed. Steiner, G.), Random House, 1977, p. 168.

²⁴ Franck, T.M., *Fairness in International Law and Institutions*, Oxford University Press, 1995. See also Rawls, J., *A Theory of Justice: Revised Edition*, Oxford University Press, 1999, and Leader, S., ‘Trade and Human Rights II’ in *The World Trade Organisation: Legal, Economic and Political Analysis* (eds Macrory, P.F., Appleton, A.E. and Plummer, M.G.), Springer, 2005, pp. 663–96.

implement the RTD Tax Relief, the author also discusses in Chapter 10: Petersmann's view of the WTO taking up the mantle of enforcing human rights and a rights-based reading of WTO law (right to trade);²⁵ Alston's response to Petersmann indicating the dangers of such an approach;²⁶ and Cass's view of a constitutionalised WTO giving greater effect to the economic development needs of States (*trading democracy*).²⁷ A full discussion of any potential right to trade and the constitutionalisation of the WTO is however beyond the scope of this book, which must focus on the application of IEL to the Digital Divide. The main concern is to examine the nature of the obligation, if any, of the WTO to act in this area.

The final section of the book, Chapter 11 (Part IV), brings together the differing strands of IEL: telecommunications; e-commerce; competition; IPRs; technology transfer; bilateralism and international development law into a final conclusion suggesting the possible ways ahead for DCs and LDCs, and setting out conclusions as to whether each of the questions set out by the author in this Introduction has been effectively addressed.

Chapter 2 starts with a review of the rise of international digital networks and whether it is possible to come to a single point of definition for the term 'Digital Divide'. It also sets in context the relevance of enforcing civil and political, economic, social and cultural rights to addressing the Digital Divide, a point that is later returned to in Chapter 10.

²⁵ Petersmann, E., 'Time for a United Nations "Global Compact" for Integrating Human Rights into the Law of Worldwide Organizations: Lessons from European Integration', *EJIL*, 13 (2002) 621.

²⁶ Alston, P., 'Resisting the Merger and Acquisition of Human Rights by Trade Law: A Reply to Petersmann', *European Journal of International Law*, 13 (2002) 815.

²⁷ Cass, D.Z., *The Constitutionalization of the World Trade Organization*, Oxford University Press, 2005.

2. The rise of international digital networks: defining the digital divide

2.1 INTRODUCTION

This chapter looks at the rise of international digital networks and the different ways in which the Digital Divide can be defined. In the context of this book, an international digital network is a network that provides connectivity to the backbone internet, the global infrastructure of links connecting Internet Backbone Providers (IBPs). It was pointed out in Chapter 1 that ensuring developing countries can gain access to IBPs on non-discriminatory and transparent terms will be crucial for addressing the Digital Divide. This issue of access by DCs and LDCs will be looked at more closely in Chapter 3 (Section 3.2.3) and Chapter 7 respectively. As such when reviewing the international Digital Divide, we first need to understand how the internet developed in the first instance. Given that this book is focused on law, the author will not discuss the underlying development in technology or of the management of the *domain name system*¹ currently administered by the Internet Corporation for Assigned Names and Numbers (ICANN),² but will focus instead on the main technological milestones that allowed the infrastructure of the internet to develop. The author looks first at the emergence of the internet in the United States and the development of the two protocols that helped facilitate its growth, the *Transmission Control Protocol* (TCP) and the *Internet Protocol* (IP). The author also looks briefly at other technologies that have helped to accelerate the development of the internet, such as the advent of Local Area Networks and fibre-optic cable. In Section 2.3, the author moves the focus of discussion to the international Digital Divide, arguing that there is no one definition for the

¹ Domain names are structured into a hierarchy of levels including at the top the generic top level domains (.com, .org, .net, .edu etc.), and also country code top level domains (ccLTDs), such as .uk, and second level domains, such as .gov.uk, .net.uk etc. Third level domains are normally web addresses such as essex.ac.uk etc.

² For a more detailed discussion of the work of ICANN and of the Domain Name Server (DNS) system, which is now administered through a series of ICANN contracts with separate domain name registries around the world, see the ICANN site at www.icann.org.

Digital Divide, that instead the Divide is linked to a number of disparate sectors. In reviewing current research testing the relationship between the Digital Divide and various other sectors: IT penetration; competition; IP; telecommunications; trade policy; innovation; alternative development; and the enforcement of civil and political, economic, social, and cultural rights at home, the author argues that only by exploring the application of IEL to each of these sectors in turn, and then seeing how the law can be modified, can we truly begin the process of addressing the Digital Divide.

2.2 A BRIEF OVERVIEW OF THE EVOLUTION OF THE INFRASTRUCTURE OF THE INTERNET

The present day internet can be described as a ‘network of networks’, but the catalyst for its early development was the desire of the academic community to enable computers to interoperate with each other. In 1965, the US Defense Department’s Advanced Research Project Agency (ARPA) funded the first computer network, the forerunner to ARPANET (the first wide area network).³ By the late 1960s ARPA was using a variety of electronic, computer and communications technologies, and a decade later, when computer networking was beginning to really take off, the use of Local Area Networks (LANs) began to proliferate. A fundamental idea of ARPA’s research was a new approach to interconnecting LANs and Wide Area Networks (WANs) that became known as the ‘internetwork’, later abbreviated to the ‘internet’. ARPANET continued to grow steadily through the 1970s to include international connections to Norway and the UK, trans-Pacific connections to Hawaii, and a domestic network of some 15 to 20 sites across the United States.⁴ In the early 1980s, the Personal Computer (PC) allowed intelligence in the network to move to local distributed networks (LANs), whereas up until this point, networks consisted mainly of dumb terminals directly connected to centralised mainframe computers on a time-share basis. Easy access to computers meant that there was a need to ‘scale up’ communications between these LANs (now consisting of intelligent terminals). One of the problems in achieving scalability was that much of the software used at the time by hardware vendors was proprietary, which prevented the portability of information technology between different hardware platforms. This problem was overcome eventually through the development of UNIX as the first open source

³ See the early history of the internet at: <http://www.isoc.org/internet/history/brief.html>, date accessed August 2005.

⁴ Ibid.

software, and also the development of *Open Systems Interconnection* (OSI) standards in 1984.⁵ The OSI standards set in place a common set of layers that designers could now build networks around and which would allow different hardware and software protocols to interoperate. Particularly important was the innovative Internet Protocol (IP) software, which provides basic communications, and the Transmission Control Protocol (TCP) software, which provides additional features that internet applications require.⁶ Both IP and TCP work together to send data reliably across the internet: IP provides a set of rules as to how to present packets of information, allowing an interconnected set of networks to operate like a single large network. The current version of IP is IPv4, sometimes referred to as the ‘thin layer’ due to the limited level of functionality that it provides, limited in terms of *addressing availability*⁷ and also in its ability (or lack of) to facilitate real-time applications. The Internet Engineering Task Force is currently working on a new version of IP (IPv6) that will allow for increased addressing space and also for real-time applications.⁸ The TCP protocol revolutionised the way that traffic on networks could be conveyed.⁹

As Vint Cerf once said: ‘the internet problem . . . was to get host computers to communicate across multiple packet networks without knowing the network technology underneath’.¹⁰ The network technology referred to by Cerf was the telecommunications carriers underlying network: the problem lay in the fact that different telecommunications carriers used different network technologies and the trick was to somehow make communications between computers transparent to the underlying network technology. The solution was IP.¹¹

⁵ Cromer, D., *The Internet Book: Everything you need to know about Computer Networking and How the Internet Works*, Prentice-Hall, United States, 1995 (‘Cromer 1995’).

⁶ Note however that both TCP and IP were invented in the early 1970s before the OSI standard was produced in 1984.

⁷ The number of available IP addresses that can be supported: every PC on a network will be allocated an IP address (similar to a telephone number). These addresses can be both dynamic (changing) or fixed depending on the type of network used. See Cromer (1995) for more information.

⁸ See IPv6 overview at: <http://playground.sun.com/ipv6/>, accessed April 2006.

⁹ TCP was invented by Vinton Cerf and Robert Kahn in the early 1970s and IP established by 1978.

¹⁰ Cerf, V., ‘How the Internet Came To Be’ at: <http://www.bell-labs.com/user/zhwang/vcerf.html>, accessed August 2005.

¹¹ By 1978, Cerf and Kahn proposed splitting the TCP protocol into a host-to-host protocol and an IP. The IP passed individual packets between machines (host to packet-switch or between packet-switches), whilst TCP ordered the packets into reliable connections between hosts. See Fransman, M., ‘Evolution of the Telecommunications Industry’ in *World Telecommunications Markets* (ed. Gary Madden), Edward Elgar, 2003, p. 31.

Simultaneously, the US carrier, AT&T, was developing a new form of data network (the underlying network) that would allow for increased throughput speeds between computer networks. This technology was based on a new form of switching called 'packet-switching' as opposed to the conventional technology of the time 'circuit-switching'.¹² It was from this point that telecommunications carriers began the transition from analogue to digital signalling, which allowed for increased efficiency and the ability to transport multiple types of traffic.¹³ The international cable systems were the first networks to be controlled by digital signalling.¹⁴ During the mid 1970s to 1980s, data networks continued to be rolled out separately to voice networks, and delivery speed and transmission capability improved with new digital technologies such as Integrated Switched Digital Network (ISDN), Frame-Relay, and Asynchronous Transfer Mode Technology (ATM).¹⁵ However, it was not until the invention of fibre-optic cable in the late 1970s that the great leap in transmission speed and capacity came. Fibre-optic cables allowed for a carrying capacity many times greater than conventional copper cables. This coupled with the advent of digital multiplexing, which allowed different digital traffic streams to be 'switched' or aggregated onto the same transmission channel really revolutionised switching technology and allowed data and voice networks to now share common switching and transmission facilities.¹⁶

In 1991, after the National Science Foundation in the United States lifted the restrictions on commercial use of the internet, the Commercial Internet eXchange (CIX) Association was formed by several US companies including General Atomics (CERFnet), Performance Systems International (PSInet), and Uninet Technologies (AlterNet). From there the internet grew exponentially. New carriers, such as Colt (City of London Communications), MCI (later part of WorldCom), Level 3, WorldCom, Energis started rolling out data networks which relied on heavy investment in R&D by their switch suppliers (Siemens, Ericsson, Alcatel, Nortel etc.), and which utilised advanced packet-switch and multiplexing techniques, and that contrasted sharply with the old regime

¹² A data communications network that uses packet-switching technology, a switching procedure whereby two parties have a logical connection across a network, but no dedicated facilities (unlike a circuit-switched network which sets up a dedicated connection), and where units of transmission have a maximum size (usually 128 or 256 octets): this is a store and forward technique where nodes in the network may store a packet for some time before forwarding it to the next node (or router) in line. See Kessler G., *ISDN*, McGraw-Hill, 1990, p. 281.

¹³ ACCC (Australian Competition and Consumer Council) report: *1234 Internet Interconnection*, 2001, p. 8

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid, p. 9.

where incumbent operators such as AT&T, France Telecom, NTT, and BT had pursued R&D through in-house departments or specialised laboratories (Bell Labs-AT&T, Martlesham-BT, Electrical Communications Laboratories-NTT) which had been slower to adopt packet-switching technology. As such, with fewer overheads and smaller operations, the new carriers were able to adapt to the changing communications market more quickly. Many of the new carriers were US financed and by the mid- to late-1990s had rapidly started to roll out pan-European networks.¹⁷ In 1990, the World Wide Web was created by Berners Lee, Cailliau and others at CERN in Switzerland, and in 1994 Mosaic Communications went on to develop Netscape, the first internet browser. By 1995, Bill Gates of Microsoft had recognised the growing significance of the internet and the use of digital networks.¹⁸ With Microsoft's acceptance of the internet, the net spread exponentially in the US.

In the rest of the world, particularly Asia, Europe, and Africa, the internet has had a more uneven and less meteoric rise. For example in Western Europe, the European Commission launched the *e-Europe* initiative in 1999 in order to accelerate the take-up of the internet. The Commission's three main objectives for a cheaper, faster, and more secure internet was subsequently endorsed by the European Parliament. The Commission also saw accelerated unbundling of the local loop (the copper lines linking residential customers with the national telecoms network) as a means of increasing facilities-based competition and take-up of broadband internet services by end-users. However the real problem remained the high cost of leased-line capacity that ISPs required in order to interconnect with the main (generally US) backbone operators. In 1998, EuroISPA, the association of European ISPs, indicated that it was common practice for many European ISPs to route their European traffic through American peering points (either private or public).¹⁹ Following several competition enquiries by the European

¹⁷ See Fransman, M., 'Evolution of the Telecommunications Industry' in Madden, supra note 11 at pp. 18–21.

¹⁸ In May 1995 Bill Gates issued the now famous memo: 'The Internet Tidal Wave' that indicated Microsoft's acceptance of the internet. For more background, see Inside Microsoft (Part 2) at <http://www.businessweek.com/1996/29/b34842.htm>, accessed April 2006.

¹⁹ A peering point is essentially where two internet operators interconnect their networks in order to exchange traffic. Peering points can be at public internet exchanges such as MAE-WEST or MAE-EAST in the United States or at private bilateral peering points. Transit by contrast involves a fee that one operator pays another to allow its traffic to transit across the paid operator's network either to terminate on a third operator's other network or the paid operator's network. For more details see 'Interconnection, Access and Peering: Law and Precedent', by Kariyawasam, R., in *Telecommunications Law* (eds Walden, I., and Angel, J.), Blackstone Press, 2001.

Commission into the cost of leased-lines within Europe, the costs for bandwidth have fallen substantially (also in part due to the increased take-up of fibre-optic cable – discussed above), and the roll-out of pan-European networks by new other licensed operators (OLOs). In the last few years, entrants in the internet backbone market have rolled out over 10,000 route miles of fibre-optic network.²⁰

In 1999, the total number of computers permanently connected to the internet in Africa (excluding South Africa) broke the 10,000 mark as measured by Network Wizards.²¹ However Network Address Translation, which allows re-use of the same IP address across a number of computers in different networks effectively means that many more users might be connected to the internet than otherwise indicated. In 2001, there were approximately 1.3 million subscribers in Africa, 250,000 in North Africa and approximately 750,000 in South Africa.²² By 2001, most African capitals also had more than one ISP. Fourteen countries had five or more ISPs, while seven countries had ten or more active ISPs: Egypt, Morocco, Nigeria, South Africa, Tanzania and Togo.²³ In the early 1990s, like Europe, African ISPs also suffered with the high cost of international bandwidth caused mainly by a monopoly stranglehold on international leased circuits by African incumbent telecommunication operators in that region. However this situation slowly changed and by 2001, the total international outgoing internet bandwidth in Africa was approximately 250 Mps, which although tiny by Western standards (many multiples of this) was nevertheless an achievement. In Europe the position was accelerated due to the lowering of leased-line tariffs brought down through competitive pressure, but also increased regulation and competition authority oversight.

Between 2000 and 2005, the average worldwide internet user growth rate was in excess of 146%, with the highest growth rate in the Middle East (266.5%), Latin America and the Caribbean registering 211.2% with Asia at 198.3% (www.InternetWorldStats.com). More recent data indicates that the growth rate in the number of internet users worldwide has slowed to a rate of 15.1% in 2003, down from 26% in the previous two years.²⁴ Africa showed

²⁰ Giovannetti, E., 'Internet Connectivity and Competition Policy', in *Information Technology Policy and the Digital Divide: Lessons for Developing Countries* (eds Mitsuhiro, K., Tsuji, M., and Giovannetti, E., Edward Elgar, 2004, pp. 35–59.

²¹ Jensen, M., 'The African Internet – A Status Report', 2001, available at: <http://demiurge.wn.apc.org/africa/afstat.htm>, accessed September 2005.

²² Ibid, p. 2.

²³ Ibid, p. 3.

²⁴ UNCTAD, *Information Economy Report*, 2005, p. xv.

growth of 56% in 2003. China has shown incredible growth with almost 23 million broadband subscribers connected in just three years (although it still has a low computer penetration rate of only 2.7%).²⁵ However according to UNCTAD's *Information Economy Report 2005*, in 2003 the overall gap between developed and developing countries remains high with only 1.1% of Africans having access to the internet compared with 55.7% of North Americans.

2.3 THE DIGITAL DIVIDE

Bruno Lanvin argues that the major trends that characterize the end of the twentieth century are:

- (a) the globalization of the markets for trade, finance, technology and ideas, and the rapid expansion of a greater reliance on market mechanisms worldwide;
- (b) the globalization of information networks, accompanied and permitted by a continuous decrease in price-performance ratios, a steady process of convergence and digitalization, and the emergence of information as a central production factor and engine of growth, often at the origin of new business and industrial organization models, such as in the Internet realm; and
- (c) the emergence of a global role for non-governmental players and for civil society.²⁶

Lanvin argues that this combination of trends has provided the basis for globalisation and that it is this globalisation that is providing the backdrop for the Digital Divide. There is no doubt some truth to this and yet the Digital Divide cannot just be explained in terms of globalisation as the Divide does not appear to have any one single point of definition. As is clear from the brief history of the rise of international digital networks, many actors have played key roles in the development of internet technology and networks. Key issues are investment in R&D and the utilisation and innovation following on from R&D. Before entering a more detailed discussion of the meaning and scope of the term 'Digital Divide', it is first important to define the meaning of the terms 'Developing Country' and 'Least Developing Country', for the discussion of the Digital Divide in this book is with regard to DCs and LDCs (the 'international Digital Divide') as opposed to the Digital Divide that may exist *within* a developed country, for example the United States, due to issues of universal service/universal access, geography and differing levels of poverty.

²⁵ Ibid, p. xvii.

²⁶ Lanvin, B., 'International Efforts to Bridge the Digital Divide', in Madden, supra note 11 at p. 242.

The WTO covered agreements do not include a specific definition of a Developing Country (although a 'small nation' is defined), but many of the agreements, particularly the GATS, GATT and TRIPS, do make specific reference to the term in relation to Special and Differential rights (rights that apply specifically to Developing Countries). The World Bank by contrast classifies DCs into four basic groups based on their level of per capita income. Low Income Economies are classed as those with a per capita income of less than US\$755 (in 2000); Lower Middle Income Economies are classed as those with per capita figures of between US\$756–\$2,995; Upper Middle Income Economies between \$2,995–\$9,265; High Income Economies with per capita income figures in excess of \$9,265. The World Bank also refers to the Upper Middle Income Economies as 'newly industrialized' economies. There is no international consensus for the term 'Developing Country' and the United States and European Communities have differing definitions referred to in various statutes and often tied to the *General System of Preferences* (GSP) regimes that certain developed countries apply. The objectives of the GSP are (a) to increase DC and LDC export earnings; (b) to promote their industrialisation; and (c) to accelerate their rates of economic growth.²⁷ Under GSP schemes of preference-giving countries, selected DC and LDC product lines are granted reduced or zero tariff rates over the Most Favoured Nation (MFN) rates. There is opposing argument as to the merits of GSP regimes given that they are often time-bound and biased by political prejudice (discussed later in Chapter 10).

The international Digital Divide in relation to DCs and LDCs has been a subject of intense research over the last five years. As mentioned above, there is no single point of definition. Fransman for example argues that the information (info) communications industry (based on content delivery over the internet and digital networks) is open with barriers to entry into the innovation system low and with entry facilitated by the widespread knowledge of the main operating systems, software languages and protocols, which Fransman calls a 'common knowledge' effectively bought about by the *de facto* standardization of HTML,²⁸ TCP/IP and Wireless Access Protocol (WAP).²⁹ He argues that this new info communications industry differs widely from the old telecommunications industry: the innovation process was only open to the monopoly network operator and favoured suppliers. This led to differing

²⁷ Resolution 21(ii) taken at the UNCTAD II conference in New Delhi, 1968.

²⁸ Hypertext Mark-Up Language (HTML), the common code used for webpage design, making it much easier for documents to be universally posted to different websites hosted on different networks.

²⁹ Wireless Application Protocol, which performs a function similar to HTML, but used for access to wireless networks.

national standards and practices resulting in a fragmented knowledge base.³⁰ Many incumbent operators in DCs and LDCs still have control over their national telecommunications markets, resulting in the slower innovation and fragmented standards that Fransman speaks of, although on the standards side, many of these operators would also need to conform to international telephony rules (for example on signalling, network integrity etc.) that the International Telecommunications Union (ITU) imposes.³¹ The critical point however appears to be the lack of competition from alternative service providers and smaller more advanced network operators. In this way, there arises a 'Digital Divide'.

Another approach to the Digital Divide comes from the relative concentrations of Customer Premises/Information Communications Technology (ICT) Equipment available. James for example defines the Digital Divide as the unequal distribution of computers, internet connections and fax machines between countries.³² He describes it 'as another technological gap that emanates from and reflects the highly skewed distribution of global research expenditures between the north and the south'.³³

2.3.1 Internet Diffusion/Access

Kagami et al. are more specific in narrowing the concept to *internet diffusion*, arguing that a critical measure of internet diffusion is the share of the US among global internet users, and that the growing disparity in internet access among countries or socio-economic groups is called the 'Digital Divide'.³⁴ By all accounts in terms of internet population and the penetration rate of internet access, the US leads the world.³⁵ Kagami argues that 'a deepening digital

³⁰ Fransman, M., 'Evolution of the Telecommunications Industry' in Madden, supra note 11 at pp. 18–21.

³¹ See for example the Blue Book and Red Book rules of the ITU at www.itu.org.

³² James, J., *Bridging the Digital Divide*, Edward Elgar, 2003, p. 23.

³³ Ibid.

³⁴ Kagami, M., Tsuji, M., and Giovannetti, E., *Information Technology Policy and the Digital Divide: Lessons for Developing Countries*, Edward Elgar, 2004, p. 62.

³⁵ See Nielsen/NetRatings, *Global Internet Index 2001*, cited in Kagami et al., ibid at p. 63. That the US has pioneered the development of the internet and leads the world in the global export of electronic intangible products is partly due to its success in developing at an early stage effective competition in telecommunications services and access to telecommunication networks. This is due to legislative reform and market reform (the break-up of AT&T and the introduction of the US Telecommunications Act 1996), but also to the extension of the concept of *universal service* to internet access under s. 254(b)(2) Telecommunications Act 1996 which provides that 'access to advanced telecommunications and information services should be provided in all

divide in the Internet age is a critical policy issue because the Internet as a general purpose technology has become essential not only for communications needs but also in economic, social and political arenas'.³⁶

At the multilateral level, the OECD has defined the Digital Divide as the difference in internet and electronic commerce access opportunities between OECD and non-OECD countries. More specifically the term Digital Divide refers to the 'gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities'.³⁷ The most basic indicator of the digital divide is the number of access lines per 100 inhabitants. In its report, *Understanding the Digital Divide*, the OECD also draws on the distinction between penetration rates in terms of the number of lines per 100 inhabitants, but also as to the level of *digitalisation* (the number of lines or switches that use digital as opposed to analogue technology³⁸). Those countries with the least developed networks in terms of network reach but who have been able to quickly replace analogue switches with digital switches have had the highest digitalisation among non-member OECD countries for most of the 1990s, even though saddled with low penetration rates. A digital network is important for the least developed networks as it provides a basic platform upon which network extensions can be built: the digital divide is as much about network *access* as having the latest technology.

regions of the Nation'. In looking at universal service, it is important to distinguish it from universal *access*. A universal access obligation refers to an obligation on an operator to provide for a functioning, affordable public telephone facility that can be reached by the whole population of a country, so that inhabitants of rural regions can have equal access to a telephone at similar prices as those living in cities. Universal service by contrast is subtly different, setting out an obligation on an operator to provide a minimum level of service to the home, and on demand (request for connection). Universal access mainly refers to providing access to an affordable public or community telephone, and which is not subject to a request for connection in the same way as universal service. See Cave, M., Milne, C., and Scanlan, M., *Meeting Universal Service Obligations in a Competitive Telecommunications Sector*, Report to DGIV, European Commission, March 1994.

³⁶ Kagami et al., *supra* note 34 at p. 62.

³⁷ OECD/DSTI, *Understanding the Digital Divide*, 2001, p. 5.

³⁸ Digital technology works purely in terms of binary codes of '1' or '0' sending small packets of information along transmission lines, whereas analogue technology works by way of transmitting information in the form of electromagnetic waves, which requires much higher bandwidth (the capacity of the transmission pipe) and also a dedicated point-to-point link. Digital information can be sent by way of a myriad of paths, not requiring a dedicated link. This in turn leads to digital technology being cheaper and easier to set up, manage and operate.

One aspect of the Digital Divide concerns access to the telecommunications network (as given by the number of telephone lines per 100 inhabitants), but another concerns pure internet access: here the OECD measures the Digital Divide (as regards the internet) in relation to the penetration rate for *internet hosts* (the number of internet hosts per 1,000 inhabitants).³⁹ The OECD reports that while Africa, Asia, Central and South America are increasing their penetration rates, the pace is very slow. In Asia, the growth rate is mainly attributed to OECD member countries. In Africa, the growth rate is almost negligible. This means that the international digital divide, as measured by the number of internet hosts, is growing very quickly. In October 1997, the Digital Divide in internet host penetration between Africa and North America was a multiple of 267. By October 2000, this had grown to a multiple of 540.⁴⁰ As regards the Digital Divide with respect to electronic commerce, the OECD defines a key indicator as the number of *secure servers* in each country.⁴¹ In 2001, the OECD estimated that 95% of all secure servers are located in the OECD area, while the other 5% are attributed to firms in non-member countries.⁴²

2.3.2 IT Penetration

In recent research, Dewan et al. examined a panel of 40 countries over the period 1985–2001 based on data from three distinct generations of information technology (IT): mainframes, personal computers and the internet.⁴³ In terms of the empirical framework they use for measuring the Digital Divide, they argue that:

The most common characterization of the global Digital Divide is in terms of the dispersion in IT penetration across countries, under the premise that if there were no Divide then there would be no differences in IT penetration across countries.⁴⁴

³⁹ An internet host can be defined as any computer on a *network* that is a repository for services available to other computers on the *network*. A host machine can provide several services, such as *SMTP* (email) and *HTTP* (web). See Matisse Enzer's dictionary of internet terms at: <http://www.matisse.net/files/glossary.html#H>, accessed August 2005.

⁴⁰ Supra note 35.

⁴¹ A secure server can be defined as a computer, or a software package, that provides a specific kind of service to *client* software running on other computers. It is made secure through the use of an encryption technology (such as a secure socket layer protocol).

⁴² Supra note 37.

⁴³ Dewan, S., Ganley, D., and Kraemer, K., 'Across the Digital Divide: A Cross-Country Analysis of the Determinants of IT Penetration', 2004, PCIC, Graduate School of Management, University of California, Irvine at: www.pcic.gsm.uci.edu, accessed August 2005.

⁴⁴ Ibid.

To measure the Digital Divide they use per capita measures (IT penetration per capita) and also IT penetration per GDP, arguing that the latter measurement illustrates the tight association of digital access with income levels, and the co-linearity of income with other factors such as education and telephone penetration. Within this framework, they also use a number of different variables classed into three different categories: (i) *Economic* which incorporates the income and cost factors that affect technology adoption decisions; (ii) *Demographic* which includes factors that affect the value of access to technology, such as the size of the urban population (population residing in urban areas) and also the stock of human capital, characterised by the average education level of the population in terms of years of schooling; and (iii) *Environmental*, which includes telephone infrastructure measured in terms of density of telephone main lines and also the importance of trade in the economy (the larger the trade sector the greater the pressures to conform to technology norms and practices of the network of global trading partners). In including these various variables in their survey, Derwan et al. produce a very comprehensive view of the Digital Divide not just in terms of conventional measures (such as the number of internet hosts), but also as a measure of the *socio-economic* impact of the divide. Before conducting their own research, they review fairly extensively existing econometric studies on the Digital Divide, hoping to build on such work, some of which the author discusses further below. Derwan et al.'s results are quite revealing indicating:

To the extent that the Digital Divide is a concept that relates IT adoption to national income, the quantile regression results for the GDP per capita variable are fundamental to illuminating the mechanisms behind the Divide. We find that not only is the association between GDP per capita and IT penetration positive and significant, but it is stronger at higher levels of IT penetration. This 'feedback effect' between GDP per capita and IT penetration drives a wedge between developed and developing countries, reinforcing the Digital Divide.⁴⁵

The results do not indicate whether the relationship works the other way around, that is, by increasing GDP, IT penetration also increases. They also find that DCs get disproportionate benefits from lowering their infrastructure costs, improving their human capital and increasing participation in the global economy. Recognising that none of these can be achieved quickly, they suggest that long-term investments in these particular areas will 'offer the best levers to the developing countries for closing the Digital Divide over time'.⁴⁶ The report indicates that the Digital Divide appears to have largely stabilised

⁴⁵ Ibid, p. 19.

⁴⁶ Ibid, p. 20.

and that although developed countries continue to have access to more digital resources than DCs, penetrations relative to the mean have shrunk and continue to do so at a slow pace. To help reduce the Digital Divide they urge policy-makers in DCs and LDCs to reduce tariffs and taxes on IT products and services, encourage deregulation of telecommunication services and accelerate the pace of technology transfer from technology exporting countries.⁴⁷ Although they acknowledge that future research would involve expanding the data set to allow for coverage of emerging countries that were underrepresented in their study, factors such as human capital and the size of the trade sector are having a stronger impact on encouraging internet use in DCs than they did with previous technologies: 'If internet use is the most important marker we have to date of the Digital Divide, as many currently believe, then this is the opportunity that developing countries have been waiting for to catch up to their more advanced neighbours'.⁴⁸

2.3.3 Alternative Development

Soeftestad and Sein in adopting a more policy-oriented approach have also conceptualised the Digital Divide by linking to a broader set of Information Communications Technologies (ICTs) (than say internet or telecommunication statistics). They argue that ICT magnifies the Digital Divide, the difference between knowledge and technological capabilities of the developed and developing world, and that the information gap leads to a competitive gap and the result is the development gap.⁴⁹ They cite an earlier study by Hamelink defining ICT in development as:

ICTs encompass all those technologies that enable the handling of information and facilitate different forms of communication among human actors, between human beings and electronic systems, and among electronic systems. These technologies can be sub-divided into: capturing technologies, storage technologies, communication technologies and display technologies.⁵⁰

⁴⁷ Ibid, p. 21.

⁴⁸ Ibid.

⁴⁹ Soeftestad, L., and Sein, M., 'ICT and Development: East is East and West is West and Twain may yet Meet', in *The Digital Challenge: Information Technology in the Development Context* (eds S. Krishna and S. Madon), Ashgate, London, 2003, p. 67 citing Sirimanne, S. (1996), 'The Information Technology Revolution: What about Developing Countries?' Express, No. 04 1996, IDIC, CIDA.

⁵⁰ Ibid, p. 65 citing Hamelink, C.J. 'New Information and Communication Technologies, Social Development and Cultural Change', Discussion paper No. 86, UNRISD, Geneva, 1997 (<http://www.unrisd.org/enginindex/publ/list/dp/dp86/dp86.htm>).

In contrast to the institutional approach of measuring the Digital Divide, such as the indices used by UNDP and OECD mentioned above, Soeftestad and Sein argue that many of these statistics hide a number of key aspects. They argue

donor agencies are more preoccupied with numbers and the supply side of ICT. Thus such indicators as 'numbers of phones' or 'percentage of population with access to the internet' are taken to indicate ICT diffusion. Whilst these are necessary conditions to study the impact of ICTs on national development, they are far from being sufficient conditions. These statistics only represent the first and second order effects of technology diffusion in society. . . .⁵¹

The *first* order effect deals with simple substitution of old technology with new (mobile phones replacing letters and land phones) and the *second* order with people communicating more as a consequence of the first order effect. However the impact of ICT diffusion on a society according to Soeftestad and Sein can only be truly studied through measurement of a *third* order effect, which is the generation of new related businesses and societal change (virtual organisations, empowerment of women etc.).⁵² Soeftestad and Sein's views, particularly their views on *Alternative Development*⁵³ and the use of ICTs in development, will be more fully explored in Chapter 10.

Further analysis and measurement of the Digital Divide⁵⁴ can be found in the research of Wong, who evaluates the Digital Divide in Asian countries based on penetration levels of telephone main lines, PCs and internet use.⁵⁵ By analysing comparisons of the scale of IT adoption relative to national income, Wong finds that that the Digital Divide in Asia is wide and has the potential to become more severe. Kraemer and Dedrick look at a panel of 40 Asian and non-Asian countries over the period 1995–2000 finding that there is a large and growing divide within the Asian block itself, and a large and growing divide between non-Asian and Asian countries.⁵⁶ Fink and Kenny however

⁵¹ Soeftestad and Sein, *supra* note 49 at p. 67.

⁵² *Ibid.*

⁵³ Described as a marriage of two paradigms: human development and alternative development, where the former focuses on important indices measuring socio-economic development and areas to target the use of ICTs, and the latter focuses on political freedom and citizen participation in democracy, the role of civil society and the importance of local context and culture. See *ibid.*, p. 69.

⁵⁴ Also cited and further reviewed in the work of Dewan et al., *supra* note 43.

⁵⁵ Wong, P.K., 'ICT Production and Diffusion in Asia: Digital Dividends or Digital Divide?' *Information Economics and Policy* 14(2), 2002, 167–87.

⁵⁶ Kraemer, K.L., and Dedrick, J., 'Information Technology in SouthEast Asia: Engine of Growth or Digital Divide?' in *Information Technology in Asia: New Development Paradigms* (eds C.S. Yue and J.J. Lim), Institute of Southeast Asian Studies, Singapore, 2002.

show that by using alternative measurements of the Digital Divide, for example measures of growth relative to economic wealth or per capita income, some DCs could already be overtaking selected developed countries.⁵⁷

2.3.4 Civil and Political Rights and ESCR

In a separate panel of 100 countries measured over 1999, Arquette finds that the Digital Divide parallels the gap in economic and human development.⁵⁸ In a panel of 105 countries, Beilock and Dimitrova analyse the impact of GNP, measures of *civil liberties*, and infrastructure and regional variables showing internet use on IT penetration or diffusion, finding that the most important factor is GNP, although increasing civil liberties also have a significant impact.⁵⁹ This is an important finding, as it appears to confirm that enforcing civil and political rights at home can have a positive impact on IT penetration and diffusion.

Kiiski and Pohjola use a panel of 60 countries over the years 1995–2000, looking at a range of variables including income per capita, telephone access costs and the average years of schooling, and also the five-year growth rate of internet hosts.⁶⁰ They find that GDP per capita and internet access cost are important factors in OECD countries, but that the least important factor is education. However this position changes when DCs are included in the sample and education becomes an important variable in the penetration and diffusion of IT.

Quibria et al. in a separate analysis of 100 countries during 1999 seems to confirm this result.⁶¹ Using a data set set for the years 1993–2000, Phojola confirms that IT investment is tightly related to income measures and human capital.⁶² Again these findings indicate that by focusing on effective education programmes for their nationals DCs and LDCs can help to address the Digital

⁵⁷ Fink, C. and Kenny, C.J., *W(h)ither the Digital Divide?* World Bank, 2003.

⁵⁸ Arquette, T.J., 'Social Discourse, Scientific Method, and the Digital Divide: Using the Information Intelligence Quotient (IIQ) to Generate a Multi-Layered Empirical Analysis of Digital Division', Northwestern University.

⁵⁹ Beilock, R., and Dimitrova, D.V., 'An Exploratory Model of Inter-country Internet Diffusion', *Telecommunications Policy*, 27(3–4), 2003, pp. 237–52.

⁶⁰ Kiiski, S., and Pohjola, M., *Cross-country Diffusion of the Internet*, United Nations University, World Institute for Development Economic Research, 2001.

⁶¹ Quibria, G.M., Ahmed, S.N., Tschang, T., and Reyes-Macasaquit, M.L., 'Digital Divide: Determinants and Policies with Special Reference to Asia', *Journal of Asian Economics*, 13, 2003, pp. 811–25.

⁶² Pohjola, M., 'The Adoption and Diffusion of ICT Across Countries: Patterns and Determinants', *The New Economy Handbook* (ed. D.C. Jones), Academic Press, California, 2003.

Divide. The right to education is of course a right that falls under the economic, social and cultural rights umbrella at Article 13 ICESR.

Guillen and Suarez review a panel of 141 countries over the period 1998–99 using a range of policy variables including telecommunications policy and infrastructure, as well as two variables that indicate to some extent the level of entrepreneurship in the country in question; predictable policy-making and a democracy index.⁶³ They find that the number of internet hosts and the number of internet users per capita are impacted by the policy variables when the entrepreneurship variables are left out, but that the policy variables lose their effect when the entrepreneurship variables are included. They conclude that public policy should look at general conditions supporting entrepreneurship and not just telecommunications policy. This again is an important finding indicating possibly that other legislative measures such as on competition policy, venture fund capital, and policies that stimulate local small business activity could have an impact on entrepreneurship rather than just telecommunications policy. Also, by taking as a variable a democracy index, we see a connection here albeit indirectly with the enforcement of civil and political rights.

Connected with the idea of democracy is freedom of expression and pluralism in the media. Norris examines the dispersion of internet use by grouping information on internet use in over 100 countries into a ‘New Media Index’ and comparing it with an ‘Old Media Index’ that indicates the level of penetration of radio, newspaper readership and television sets in each country.⁶⁴ She discovers that the two indices are highly correlated and concludes that the problems of illiteracy and strict government controls on access to the Old Media also apply to the New Media and internet access. The issue then is whether enforcing civil and political rights at home (and therefore increasing the democracy index) could result in increased internet hosts and internet users per capita: without investment in IT and telecommunications infrastructure of course this would not be possible, but the indirect relationship is worthy of further investigation, but is outside the scope of this book.

All of these results appear to confirm that enforcing civil and political rights, and ESCR at home can have an effect on reducing the Digital Divide. If it can be argued that the Right to Development (RTD) is a *composite* right, encompassing all of these separate rights (civil and political, and ESCR) then the enforcement of a general RTD package might positively impact the penetration

⁶³ Guillen, M.F., and Suarez, S.L., ‘Developing the Internet: Entrepreneurship and Public Policy in Ireland, Singapore, Argentina, and Spain’, *Telecommunications Policy*, 25(3–4), 349–71.

⁶⁴ Norris, P., ‘The Global Divide: Information Poverty and Internet Access Worldwide’, Internet Conference at the International Political Science World Congress, Quebec City, 2000.

and diffusion of IT in home states. The RTD, international development and the potential link with international economic law is discussed in greater detail in Chapter 10.

2.3.5 Competition and Telecommunications Policy

In terms of the effect of competition policy, Dasgupta et al. examine internet use in a panel of 44 countries over the period 1990–1997 assessing the impact on the ratio of internet hosts/telephone mainlines of measures including urban population, income per capita, and an index of *competition policy*.⁶⁵ They find that the ratio is significantly and positively related to policy and percentage urban population, although income per capita was not found to be significant. Again this result is interesting from the point of view of whether effective enforcement of competition policy could yield positive benefits for increased internet use. Chinn and Fairlie’s results appear to confirm Dasgupta et al.’s finding of the significance of the ‘regulatory factor’. For example, in a review of a panel of 161 countries over the period 1999–2001, Chinn and Fairlie find that variables such as GDP, telephone density and regulatory quality (as measured by an index assessing market-friendly policies) are important for growth in PC and internet density.⁶⁶ In a review of a panel of 45 countries, Wallsten finds that the more formal and controlled a country’s regulatory system, the fewer internet users and hosts.⁶⁷ In a separate study for the United Kingdom’s Department of International Development (DFID),⁶⁸ completed by the author as part of a research team investigating the costs of internet access in developing countries in Cambodia, India, Nepal, South Africa, Uganda and Zambia, the team found that generally the costs for internet access varied considerably among the case study countries, and were generally lower in the larger and more *competitive* ones.⁶⁹ Internet service provider (ISP) costs

⁶⁵ Dasgupta, S., Lall, S., and Wheeler, D., *Policy Reform, Economic Growth, and the Digital Divide: An Econometric Analysis*, Development Research Group, World Bank, 2001.

⁶⁶ Chinn, M.D., and Fairlie, R.W., *The Determinants of the Global Digital Divide: A Cross-Country Analysis of Computer and Internet Penetration*, Madison, University of Wisconsin, 2004.

⁶⁷ Wallsten, S., *Regulation and Internet Use in Developing Countries*, AEI and Brookings Institution, Washington, 2003.

⁶⁸ Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Kariyawasam, R., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., ‘Reducing the Costs for Internet Access in Developing Countries’, Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published on the internet at: <http://www.wesra.com/cost1.htm>.

⁶⁹ *Ibid*, Executive Summary.

generally accounted for under half of end user costs in these countries, with telecommunication operator charges (especially for higher users) comprising the greater portion. The research team found that liberalisation and regulation of telecommunications within DCs and LDCs, with a primary focus on effective competition for both international and domestic leased circuits, and permitting internet telephony would accelerate the growth of internet markets in these countries.⁷⁰ Other conclusions included:

- Liberalisation and regulation of telecoms within the developing countries, with a primary focus on effective competition for both international and domestic leased lines, and on permitting internet telephony;
- Sharing between developing country carriers and ISPs the revenues paid by users for calls to the internet;
- Making better use of scarce international bandwidth, for example by setting up local and regional internet exchange points and by caching content;
- Developing alternative lower-cost technologies, with a focus on wireless and cheap terminal equipment;
- Monitoring the competitive situation for the supply to developing countries of international bandwidth, and intensifying competition by helping developing country ISPs to get best available buys.⁷¹

The DFID Internet Costs study reveals that the main problem for many DCs and LDCs (at least in the case study countries) remains extreme poverty, leading to small markets and an inability to take advantage of economies of scale. The study authors recommend that increased internet take-up by businesses and institutions, better-off personal users and telecentres will build market size and attract more effective competition wherever this is permitted. In a similar study conducted by the author as part of an Antelope Consulting research team (including the Commonwealth Telecommunications Organisation (CTO)) for the Department for Central and South Eastern Europe (CSEED) of DFID in June 2000,⁷² the team compiled information from the region on technical and

⁷⁰ Ibid.

⁷¹ Ibid.

⁷² Lundy, P., Stewart, I., Souter, D., Swain, N., Milne, C., Garthwaite, N., and Kariyawasam, R., 'Improving the Quality of Transition *in* Central and South Eastern Europe *through* Information and Communication Technologies', Antelope Consulting for Department for International Development's Central and South Eastern Europe Department, 2000, available on the internet at: http://66.249.93.104/search?q=cache:IK2S4DYh0foJ:www.antelope.org.uk/telecommunications_development/CSEED_report.pdf+CSEED,+antelope+consulting&hl=en&gl=uk&ct=clnk&cd=1&client=firefox-a, accessed April 2006.

regulatory structures,⁷³ and on the social utilisation of new Information Communications Technologies (ICTs). The aim of the research was to inform CSEED's decision-making on how ICTs could be introduced and used in a more equitable and inclusive way. The team found that there was a much greater variation in the CSEE region than in Western Europe for telephone mainline density and internet use by capita. In 2000, telephone density ranged from three lines per hundred people in Albania to 37 in Slovenia. In Western Europe, the range at the time was 40 per 100 in Portugal to 68 per 100 in Sweden.⁷⁴ The team also found wide differences in the geographical coverage of telecommunications (and therefore also internet access). In Western Europe both rural and urban areas had a near 100% network coverage, whereas in the CSEE region, urban coverage was good but rural penetration far from complete.⁷⁵ On average only 15% of rural households in the region had a telephone line. Romania, Albania and Poland all had several thousand villages with no network access at all.⁷⁶

No doubt these conditions have since changed, although the large differences in the levels of internet access and the wide range of country performance were due for the most part to low and varying economic achievement, although accession plans by a number of the countries wishing to join the EU showed a willingness on the part of most of the countries to adopt EU policies in key enabling areas such as telecommunications. The research also indicated that the countries of CSEE were unequal societies with potential for social exclusion based on socio-economic group, ethnicity, sex and age, and that unemployment had greatly increased since the end of Communism, seriously affecting many groups, and especially the *Roma*.⁷⁷ The use of the internet also tended to be concentrated among the urban, educated (perhaps male) young, and although governments in the region had policies for the Information Society, the take-up of ICTs was mixed: Central Europe, but less so in the Balkans, had made considerable progress in establishing a presence on the web. Interactive services were generally not available however, partly because of resistance to transition from paper-based, physically signed and rubber-stamped transactions.⁷⁸ Also commercial companies were responding

⁷³ The central and south eastern European (CSEE) region defined for the purposes of this report included 15 countries: Estonia, Latvia, Lithuania, Poland, Hungary, Czech Republic, Slovakia, Romania, Bulgaria, Slovenia, Croatia, Bosnia Herzegovina, Former Yugoslav Republic of Macedonia, Albania, and the then Federal Republic of Yugoslavia.

⁷⁴ *Supra* note 99, Executive Summary.

⁷⁵ *Ibid.*

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

rapidly to the new technologies, although, with the exception of vanguard software and e-commerce companies (of which most of the case study countries had a number), the picture was one of presence on the web rather than e-commerce. This was related to the low number of true credit cards used in the countries. At the time, the research indicated that areas for future development to make the internet more accessible would include making telephone access cheaper, making electronic payment easier, providing public access points to the internet, and providing training in ICT skills and the English language.

Both of these DFID studies appear to point to the adoption of more effective telecommunications, IP, competition, and trade laws to help address the Digital Divide. The DFID studies are referred to again in Chapter 7 (Developing Countries and Telecommunications). Although much of the research referred to above appears to point the way to increased flexibility in telecommunication policy possibly through the use of competition law in order to enhance IT penetration and internet use, it must also be stressed that many of the developed countries' national telecommunication incumbents achieved their positions of market power over long periods of monopoly and that to suddenly open DC or LDCs' national telecommunication markets to fierce competition in both basic and advanced services might not be the first step. For example, although DCs and LDCs may be willing to liberalise their national markets in order to attract increased foreign investment, they may also want to consider how legislative measures protecting those operators providing services of a general economic interest, such as universal service/access or broadcasting obligations (similar for example to the operation of Article 86 EC Treaty on liberalisation measures), might need to be implemented to protect domestic operators during a transitional phase to increased competition in the domestic market (Chapters 4 and 8 explore this issue in more detail).

2.3.6 Innovation

Another important aspect of the Digital Divide is gaining access to the necessary technology to help with the process of innovation and manufacturing in the country itself. Lall and Pietrobelli argue in their discussion of sub-Saharan Africa:

. . . technology is vital to industrialisation at all levels . . . Manufacturing is still the main engine for transforming the economic structure of low-income countries, letting them shift from slow-growing, low-return activities, with high productivity and strong growth potential. It is the most potent user and carrier of technology to the economy, the main agent for the creation, transfer and application of new technologies. It provides the hardware of production (machinery) to all economic

sectors and catalyses new methods of management, organisation, ownership, financing, and governance . . .⁷⁹

Lall and Pietrobelli suggest that some new forces are making it easier for developing countries to become competitive, such as the growth in TNCs in transferring new technologies across the world, and the availability of technology to local firms in the form of capital goods, licensing of IP rights, consultancy or sub-contracting. They also argue that there are limits to the involvement of DCs in the globalisation of technology as ‘many of the tools of industrial policy apart from import restrictions (local content rules, export subsidies, directed credit, reverse engineering) are being constricted or forbidden by international rules and agreements’.⁸⁰ These issues are discussed in detail in Chapters 8 and 9 on technology transfer (including IPRs) and bilateralism (including trade policy) respectively.

2.4 CONCLUSION

As mentioned at the beginning of this chapter, the Digital Divide has no single point of definition. The results of the published research reviewed above indicate quite clearly that the Digital Divide can be linked to several areas including internet diffusion and access to infrastructure; IT penetration; competition, IP, telecommunications, and trade policy; innovation; alternative development; and the enforcement of civil and political rights and ESCR at home.

Having established a relationship between the Digital Divide and each of these areas, the rest of this book now explores the ‘rules of the game’, looking at the application of IEL to each of these sectors in turn. Only by understanding how IEL applies, can we determine how DCs and LDCs should make use of IEL to help address the Digital Divide. The next three chapters therefore focus on the regulation of telecommunications at the multilateral and regional level, looking in particular at the regulation of telecommunications in Europe and to some extent the United States.⁸¹ As evidenced by the research reviewed above, clearly telecommunications infrastructure and services have a direct bearing on the Digital Divide. Chapter 3 therefore looks at the international regulation of telecommunications and access to infrastructure. Chapter 4 looks

⁷⁹ Lall, S., and Pietrobelli, C., *Failing to Compete: Technology Development and Technology Systems in Africa*, Edward Elgar, 2002, p. 2.

⁸⁰ *Ibid.*, pp. 4–5.

⁸¹ The author also makes reference to research commissioned by DFID in a number of developing countries: See the report by Collins et al., *supra* note 68 above, and also to a case study on Jamaica (Jamaica Case Study). See Chapters 7 and 10.

briefly at regulation of EU and US telecommunications markets (two of the largest markets for export by DCs and LDCs in the world), with the main emphasis being on the EC market. Chapter 5 discusses a new *Layering Theory* to enhance transparency of regulation in telecommunications at both the regional and multilateral level, potentially providing increased opportunity for market access by DC and LDC operators into developed country markets, if the Layering Theory is adopted.⁸² Without ISPs in developing countries being able to gain access and to interconnect on non-discriminatory and transparent terms with the international backbone operators, who control the internet, the Digital Divide cannot be addressed. The Layering Theory set out in Chapter 5 can facilitate such access. Chapter 6 then looks at potential future regulation at the multilateral level by the WTO of electronic services and goods. Chapters 3–6 therefore cover the international rules of the game as regards the application of IEL to electronic networks and services, and as they would apply to any member of the WTO (both developed and developing).

The next four chapters are dedicated to developing countries, looking at the application of IEL to telecommunications and developing countries (Chapter 7), technology transfer, IPRs, Foreign Direct Investment and developing countries (Chapter 8), and bilateralism/IPRs and developing countries (Chapter 9). Chapter 10 reviews international development, the RTD and whether it can be classed as a *composite* right encompassing both civil and political rights and ESCR and whether a relationship exists between the RTD on the one hand and FDI on the other. If the RTD can be classed as a composite right, then the research highlighted above indicates that a relationship can be said to exist between the RTD and the Digital Divide (by virtue of the fact that the RTD's separate component rights are linked to the Digital Divide as indicated in this chapter). If the RTD can be linked to FDI, a relationship will also exist between FDI and the Digital Divide. The question will then hinge on the quality of the FDI required to address the Digital Divide: Chapters 8 (technology transfer) and 10 (Application of IEL to Human Rights) explores this issue of quality.

⁸² In Chapter 5, the author explains how the EC legislative framework, being one of the most advanced regulatory frameworks in the world for electronic networks and services, is used as the foundation stone for the Layering Theory.

PART II

The regulation of technology processes

3. International telecommunications*

Only connect!
E.M. Forster (1879–1970), *Howards End*

3.1 INTRODUCTION

As mentioned in the introduction to this book, the noted international trade lawyer and legal jurist John H. Jackson once defined international economic law as embracing ‘trade, investment, services when they are involved in transactions that cross national borders, and those subjects that involve the establishment on national territory of economic activity of persons or firms originating from outside that territory’.¹ He left out competition, although it could be argued that competition by its nature would be encompassed indirectly by the reference to ‘economic activity’. Furthermore in looking at the definition, one could easily see that telecommunications as a ‘cross-border service’ involving economies of scale would also fall within Jackson’s definition. As an *economic* sector, telecommunications is generally a vertically integrated sector generating economies of scale with very low marginal costs. Telecommunications as a *technical* sector is covered by a number of international treaties including the Outer Space Treaty 1967, the Intelsat Agreement 1971, the Convention of International Telecommunication Union (ITU Convention), the World Administrative Telegraph and Telephone Conference (WATTC), and the Conventions on Satellites. However, the aim of this chapter is not to discuss telecommunications as a technical *subject*, but to discuss telecommunications as a *sector* of international trade. In light of this, the chapter will discuss the most relevant treaties that cover telecommunications as an economic sector, specifically the WTO covered agreements.² The author contends that of all the multilateral institutions that will shape the focus of

* A version of this chapter is published in *The Research Handbook of International Economic Law* (eds Guzman, A. and Sykes, A.), Edward Elgar, 2007, pp. 533–74.

¹ Jackson, J., *The World Trading System*, MIT Press, 1989, pp. 21–2.

² GATS, GATT, TRIPS, and Information Technology Agreement (under the GATT).

international telecommunications in the decades ahead, the WTO, and to a lesser extent the International Telecommunications Union (ITU), will take this role in terms of regulatory measures affecting trade in telecommunications. The ITU will retain its position of significance as regards the gate-keeper of telecommunication technical standards given its long policy-making history in this area, but its role as a *de facto* regulator, for example in areas of competition and market access, is easily eclipsed by the emerging role of the WTO. There is also however an increasing reliance by the Master States and the EU on FTAs and bilateral trade and investment agreements (reviewed in Chapter 9 on Bilateralism). A glimpse of the rising role of the WTO is reflected in the recent Dispute Settlement Body (DSB) case between the United States and Mexico on interconnection fees between incumbent telecommunication carriers.³ The *Mexico-Telmex* Case is a landmark case, marking the first panel ruling by the WTO's Dispute Settlement Body in the telecommunications sector. The WTO's DSB is perhaps the only international regulator which has an enforcement procedure with 'real teeth', in that failure to implement its rulings could (eventually) result in trade sanctions.

This chapter, in discussing the role of the WTO in increasing international trade in telecommunications, will discuss the need for the WTO Secretariat to reform existing measures and deal with five significant challenges: (a) clarifying the WTO's role with that of the ITU;⁴ (b) resolving classification issues of new internet services that will be important for all network-based transactions;⁵ (c) developing existing provisions on competition built into the GATS, Annex on Telecommunications and regulatory Reference Paper;⁶ (d) clarifying the system by which international telecommunication operators settle inter-carrier payments (Accounting Rates),⁷ particularly as more traffic is now switched through packet-switched networks;⁸ and (e) increasing the participation of

³ *Mexico – Measures Affecting Telecommunications Services*, 1 June 2004, DS204 (referred to in this chapter as the '*Mexico-Telmex*' Case).

⁴ Section 3.2 on the *ITU* in this chapter.

⁵ Section 3.3.1 on *Classification of telecommunications services* in this chapter.

⁶ Section 3.4.2 on *The Reference Paper in light of Mexico-Telmex* in this chapter.

⁷ Section 3.2.2 on *Accounting rates* in this chapter.

⁸ A data communications network that uses packet-switching technology (a switching procedure whereby two parties have a logical connection across a network, but no dedicated facilities (unlike a circuit-switched network which sets up a dedicated connection), and where units of transmission have a maximum size (usually 128 or 256 octets): this is a store and forward technique where nodes in the network may store a packet for some time before forwarding it to the next node (or router) in line. See Kessler, G., *ISDN*, McGraw-Hill, 1990, p. 281.

developing countries.⁹ The aim of this chapter is to describe the ‘international rules of the game’ as regards telecommunications, with the main emphasis being on the role of the WTO in this sector. As the author suggests in Chapter 1, Chapters 3–5 set out the framework of IEL that applies to telecommunications at a multilateral level, but also taking the example of the European Community (and to a lesser extent the United States) (Chapter 5). In Europe, for example, the European Commission has put in place a far-reaching regulatory framework for regulating electronic communications networks and services, which seeks to separate the regulation of digital content from the digital networks that carry that content, but applying the principles of technological neutrality that seek to embrace both elements of competition law and sector-specific regulation.¹⁰ By contrast, the Federal Communications Commission (FCC) in the United States still labours with the distinction between an *information service* and a *telecommunication service* that has created disparities in regulating different communication sub-sectors, such as the cable and Digital Subscriber Line (DSL) networks, resulting in costly litigation and regulatory uncertainty.¹¹ In Chapter 5, the author discusses a Layering Theory which he argues could be used to modify WTO measures on telecommunications, such as the regulatory Reference Paper, introduced in this chapter. How such a modified RP could benefit developing countries is discussed further in Chapter 7 (Developing Countries and Telecommunications).

This chapter looks briefly at the international framework for telecommunications, reviewing the main WTO measures including the Annex on Telecommunications (AT), regulatory Reference Paper (RP), the *Mexico-Telmex* case, and ITU Recommendations D.50 and the ‘APEC principles’, the latter two issues being potentially significant for developing countries.¹² The AT, one of the first multilateral WTO instruments on telecommunications and

⁹ Discussed in Chapter 7 (Developing Countries and Telecommunications). Note also that the impact of reform of domestic regulation measures under the GATS, Article VI, particularly on mutual recognition agreements and standards setting, is also an area that needs to be addressed by the WTO, but is outside the scope of this chapter.

¹⁰ Discussed in Chapter 5.

¹¹ As Frieden argues, ‘Asymmetry in regulatory treatment may provide the lesser regulated venture a competitive advantage based on the ability to accrue cost savings’. See Frieden, R., *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, Penn State University, 2002, p. 16. Asymmetry of regulation in US telecommunications is discussed in greater detail in Chapter 6 of this book.

¹² The impact of international measures in telecommunications impacting developing countries is discussed in more detail in Chapter 7 (Developing Countries and Telecommunications).

negotiated as part of the Uruguay Round culminating in the formation of the WTO, provides a level of regulatory certainty for foreign investors requiring access to the target state's incumbent telecommunications carrier's network in order to provide services (for example financial) that have been scheduled as commitments in the target state's schedule of specific commitments. The AT applies to valued added or enhanced telecommunications services mainly (as opposed to basic or voice telecommunications services, usually the subject of a monopoly by the target state incumbent telecommunications operator). The RP, negotiated much later than the AT and coming into force in 1998, applies specifically to basic (or voice) telecommunications services. The RP's significance lies in a set of regulatory principles, the most important being the 'interconnection' principles that provide the basis for further liberalisation of a WTO member's telecommunications sector. The RP is classed as an *additional commitment* and therefore it is not compulsory for WTO Members to adopt it (unlike the AT, which being an annex to the GATS is mandatory), but nevertheless adoption of the RP is often required as a condition of further foreign investment in the sector (see discussion below).

The *Mexico-Telmex* case is the first dispute case (reaching a WTO panel) in telecommunications at the WTO and demonstrates the significance of telecommunications as a strategic economic sector within international trade. It also demonstrates the absolute need for governments to have effective and transparent measures in place that will stimulate both competition and innovation. The case hinges on the interpretation of the regulatory principles enshrined in the RP that apply to competition. There has been considerable disagreement over the DSB panel decision in *Mexico-Telmex* (discussed below) and the interpretation of the term 'anti-competitive practices' as found in the RP. This case looks to set an important precedent for future potential disputes in this sector and introduces crucial elements of competition law into the WTO framework within the school of 'Modernisation' as mentioned in Chapter 1 and despite the absence of any official compact on competition policy at the level of the WTO.

As mentioned above, following the adoption of the AT, RP and the settlement in *Mexico-Telmex*, the WTO appears to be in the 'driving seat' as regards international regulation of telecommunications with the ITU a technical standard setter and important provider of technical support to developing countries. The chapter will start with an assessment of the role of the ITU in the three significant areas mentioned above (accounting rates, interconnection and VoIP) and the ITU's somewhat conflicting position (particularly in recent years) with that of the WTO; the role of the WTO in issues of classification of telecommunication services (current service classifications are in urgent need of revising); the contentious view of whether or not current schedules of specific commitments need to be revised to include new internet services and

network-based transactions and finally with the increasing take-up of digital networks as data signals surpass voice, the role of the international regulation of internet infrastructure services.¹³ By understanding the role of these institutions in the important areas of telecommunications that most directly impact developing countries, we can then lay the foundation for the chapters on developing countries to follow (Chapters 7–10), and how principles of IEL can help address the Digital Divide.

3.2 THE ITU

The ITU was established on the principle of cooperation between governments and the private sector.¹⁴ Founded over 135 years ago, it is the oldest international organisation in the world,¹⁵ and its current membership includes regulators, network operators, equipment manufacturers, hardware and software developers, regional standards-making organizations and financing institutions. As Codding argues, the ITU has ‘survived two world wars, a cold war, and at least one major depression’.¹⁶ In the last decade, the ITU membership has faced rapid evolution given the changes in the way telecommunication services are delivered and the convergence of telecommunication, information technology and broadcasting networks, resulting in a wide range of new content rich network-based transactions. Furthermore, the liberalization and deregulation of the telecommunication sector in many countries has pushed its membership, particularly many of the developing countries, to encourage the ITU to take a greater role in international policy-making.

The ITU is divided into three broad sectors – Radiocommunication (ITU-R), Telecommunication Standardisation (ITU-T) and Telecommunication Development (ITU-D). These sectors cover all aspects of telecommunication, from standards setting on interworking of equipment and systems worldwide to operational procedures for wireless services and designing programmes to improve telecommunication infrastructure in the developing world. Each of the three ITU sectors works through conferences and meetings, where members negotiate the agreements which form the basis of telecommunication standards and services. Study groups made up of experts drawn from separate

¹³ The international regulation of content that flows over internet networks is beyond the scope of this chapter.

¹⁴ See the ITU’s website at: www.itu.org, accessed September 2005.

¹⁵ Codding, G.A., ‘The International Telecommunications Union: 130 Years of Telecommunications Regulation’, *Denver Journal of International Law and Policy*, 23(501), 1995, p. 1.

¹⁶ *Ibid*, p. 9.

national Public Telecommunication Operators (PTOs) carry out technical work, preparing the detailed studies that lead to ITU Recommendations. ITU-R draws up the technical characteristics of terrestrial and space-based wireless services and systems, and develops operational procedures. It also carries out technical studies which serve as a basis for the regulatory decisions made at radio communication conferences. ITU-T experts prepare the technical specifications for telecommunication systems, networks and services, including their operation, performance and maintenance. Their work also covers the tariff principles and accounting methods used to provide international services. Finally, ITU-D prepares recommendations, opinions, guidelines, handbooks, manuals and reports which provide decision-makers in developing countries with 'best business practices' guidelines on standards and systems. Currently there are 24 study groups spanning the Union's three Sectors (seven in ITU-R, 14 in ITU-T, two in ITU-D), which together produce around 550 new or revised Recommendations every year.¹⁷ All ITU Recommendations are voluntary agreements. The ITU is also responsible for the International Telecommunications Regulations (ITRs), which had their origins in the nineteenth century and remain one of the oldest of the ITU treaties.¹⁸ ITRs cover the international telecommunications business, setting out rules for *administrations* (government department responsible for telecommunications and not private undertakings) to put in place procedures for running international telecommunications networks and services,¹⁹ mutually agreed routing,²⁰ charging and accounting,²¹ and special arrangements which allow not only administrations but also private organisations or persons to conclude special arrangements for the establishment, operation and use of special telecommunications networks (for example money transfer through SWIFT or navigation, such as INMARSAT).²² The current ITRs were adopted in Melbourne in 1998 and appear in the Final Acts of the World Administrative Telegraph and Telephone Conference (WATTC-88). The ITRs are a binding treaty instrument and form part of the Administrative Regulations of the ITU: they are to be amended through subsequent WATTCs.²³ The ITRs are in need of amendment to keep pace with the rapid change of technology and the introduction of the Transmission Control Protocol/Internet Protocol (TCP/IP) as the basic

¹⁷ ITU's website at: www.itu.org, accessed September 2005.

¹⁸ Kelly, T., 'International Telecommunications Regulation: A Trophy or Atrophy', in *World Telecommunications Markets* (ed. Gary Madden), Edward Elgar, 2003, p. 200.

¹⁹ Article 1, International Telecommunications Regulations, 1988.

²⁰ Article 3.

²¹ Article 6.

²² Article 9.

²³ Supra note 18.

production standard of telecommunications networks, but there has been resistance within the ITU membership. Many of the developed countries see the ITRs as having been superseded by the WTO's Fourth Protocol and Reference Paper, although the terms of these measures remain vague. Many DCs and LDCs that still retain monopoly markets would like to see the ITRs amended and revived.²⁴ The position has yet to be confirmed.

In 1996, the ITU initiated the World Telecommunication Policy Forum (WTPF) to harmonise telecommunication policies on issues that have a transnational nature. The forum is organised on an ad-hoc basis determined by the ITU's executive policy-making body, the *Plenipotentiary Conference*, in conjunction with its annual governing body, the ITU Council.

3.2.1 Cooperation Agreement between the ITU and WTO

At the 1994 Kyoto Plenipotentiary Conference, one of the landmark conferences in the history of the ITU, members recognised the need to develop closer working relationships with other international institutions including the WTO, OECD and the World Bank. The ITU's Strategic Plan 1995–99 highlighted that to 'maintain ITU's claim to global technical pre-eminence in matters relating to telecommunications, the Union should continue to keep pace with developments in the areas of telecommunications policy, law, regulation, and trade'.²⁵ In fact, a cooperation agreement between the ITU and WTO was not signed until six years later in November 2000, when the then WTO Director General, Mike Moore and ITU Secretary-General, Yoshio Utsumi, agreed to strengthen relations between the two organisations, by signing a Cooperation Agreement which was approved by the 2000 Session of the ITU Council, and later ratified by the full ITU membership in a Plenipotentiary Conference.

The Agreement was to foster cooperation activities between the WTO and ITU on matters at the intersection of trade and telecommunication policy, to provide assistance to ITU members interested in WTO accession and to allow for each organisation to participate as an observer at specified meetings of the other. The agreement also provided for the ITU to receive information on dispute resolution matters.²⁶

It is difficult to assess the effect of the cooperation agreement in the day-to-day business of the two institutions. WTO advisers do sit on ITU expert groups. Further, the work of the ITU in technical areas, such as interconnection, accounting rates, and standard setting for emerging technologies, such as

²⁴ Ibid, p. 221.

²⁵ International Telecommunications Union, *Final Acts of the Additional Plenipotentiary Conference*, 1994, 49–68, at 53.

²⁶ Supra note 17.

Voice over Internet Protocol (VoIP), will most certainly have an important bearing on the future direction of the work of the Council for Trade in Services and the WTO Secretariat in reforming existing WTO measures on telecommunications, such as the regulatory Reference Paper to the Fourth Protocol (the Basic Agreement on Telecommunications). It is in perhaps these three areas: accounting rates, interconnection and VoIP that we will expect to see the greatest overlap between the work of the WTO and ITU. Each is discussed in the next three sub-sections.

3.2.2 Accounting Rates and New Modes of Operation

In recent years, reform of the international accounting rate system in telecommunications has been one of the most fiercely contested issues between the developed and developing countries. The traditional accounting rate regime clearly contravenes the MFN principles as set out in Article II GATS as the regime provides for states to set differential rates for terminating telecommunications (mainly voice) traffic within their borders according to political and economic interests. Article II requires non-discriminatory treatment between WTO members, and as a general clause, cannot be contravened, unless an exception is scheduled at the time of accession. However, when the Fourth Protocol was being negotiated by the Negotiating Group on Basic Telecommunications following the Uruguay Round,²⁷ it was agreed that a ‘gentleman’s agreement’ should be reached whereby international accounting rates would fall outside the purview of the GATS, but subject to review at the next trade round.²⁸ This position has now been ‘qualified’

²⁷ The Fourth Protocol (sometimes referred to as Protocol 4 or as the Basic Telecommunications Agreement) was signed in March 1997.

²⁸ This is widely known as the *Understanding on Accounting Rates*, which is contained in a Report by the Group on Basic Telecommunications made on 15 February 1997 at the close of negotiations on the Fourth Protocol (BTA). The Report which appended the draft Schedules of Specific Commitments states:

‘7. The Group noted that five countries had taken Article II exemptions in respect of the application of differential accounting rates to services and service suppliers of other Members. In the light of the fact that the accounting rate system established under the International Telecommunications Regulations is the usual method of terminating international traffic and by its nature involves differential rates, and in order to avoid the submission of further such exemptions, it is the understanding of the Group that:

- the application of such accounting rates would not give rise to action by Members under dispute settlement under the WTO; and
- that this understanding will be reviewed not later than the commencement of the further Round of negotiations on Services Commitments due to begin not later than 1 January 2000.’

somewhat by the WTO DSB's panel ruling in *Mexico-Telmex*, discussed later in this chapter.²⁹

Accounting rates are generally straightforward to apply: in the telecommunications sector, when an international telephone call is transmitted from one country to another, the PTO in the country that originates the call has usually made a compensatory payment to the operator in the country that receives the call. Payments arise when the traffic in one direction exceeds the level of traffic flowing in the other direction. The level of payment is based on bilaterally negotiated 'accounting rates'.³⁰ Developing countries have long argued that international settlements are required for continuing investment in and upgrading of existing legacy infrastructures, which in the developed world have been the preserve of monopolies for many decades. They argue that such settlements are not only used for telecommunications, but also used by national treasury departments in upgrading general infrastructure, such as power and water facilities. By contrast developed countries argue that net payments based on artificially high settlements do not reflect actual cost structures, which are falling due to improved transmission efficiencies, resulting therefore in net overpayments. The International Telecommunication Regulations (ITRs), discussed above, an international treaty administered by the ITU, sets out the accounting rate regime. ITRs in turn are complemented by the 'D-Series' of Recommendations, which are the work of the ITU Study Group 3, charged with the thorny task of reforming the accounting rate system. Reform has been aggressively pushed for by net-paying countries, such as the United States, which in its unilateral attempt to accelerate the process by introducing FCC benchmark levels on accounting rates, has run into stiff opposition from developed and developing countries alike in arguments on extending territoriality of FCC jurisdiction and US courts to foreign-based PTOs. It is however generally accepted now by the ITU membership that reform is required. Three main multilateral institutions have worked (and are still working) on the problem: (i) the OECD is seeking to develop a consensus among governments in developed countries; (ii) ITU Study Group 3 is studying the sector (discussed later);

²⁹ See Section 3.4.2 on *The Reference Paper in light of Mexico-Telmex*.

³⁰ <http://www.itu.int/ITU-T/studygroups/com03/accounting-rate/>, accessed November 2005. The accounting rate revenue division procedure envisages an international call as a single 'joint-service' for which the two operators negotiate an agreed 'accounting rate'. The accounting rate is then divided in half (the 'settlement rate') and applied to traffic flows in both directions. As both traffic flows are priced at the same rate, the scheme results in an overall net payment from the operator originating more traffic to the operator originating less traffic, based on the volume of traffic in each direction. See Accounting Rate Reform Undertaken by ITU-T Study Group 3, Communication from the ITU, Informal Note, Council for Trade in Services Job No. 2947, 11 May 2000, paragraph 2.

and (iii) the informal expert group, appointed by the previous ITU Secretary General (Dr Pekka Tarjanne) put forward a set of ‘guiding principles’ which favoured increased competition and the ‘move to transparent, non-discriminatory, cost-orientated settlement arrangements’.³¹

The Fourth Protocol to the GATS has already introduced market access opportunities³² and cost-based interconnection rates by way of the regulatory Reference Paper.³³ The GATS regime has effectively signalled the end of traditional correspondent-type relationships on accounting rates, replacing the old regime with a new regime of facilities-based interconnection. This new regime has resulted in ‘new modes of operation’ by developed countries in bypassing traditional incumbent carriers in developing countries, and therefore operating outside the conventional accounting rate regime. By operating outside the conventional accounting rate system, foreign carriers are able to avoid paying settlement rates that exceed the actual cost for transmission. The *new modes of operation* can be summarised as:³⁴

- *International simple resale (ISR)*: this involves the resale of leased-line (private line) capacity to provide a public switched international telephone service. Calls originating on a Public Switched Telephony Network (PSTN) in one country are effectively aggregated and transported via a leased-line to terminate on the PSTN of the destination country. Competition in leased-lines whether domestic or international is one of the building blocks of effective competition in international telecommunications. With access to leased-lines, operators can build a global Virtual Private Network (VPN) using lines leased from incumbent carriers in different countries, and if local law allows, break-out calls onto the local PSTN.
- *Foreign Points of Presence (PoPs)*: here an operator in one country is permitted to build out its network into the destination country, interconnecting with the destination domestic carrier by way of a point of interconnection. PoPs effectively replace the need for one carrier to

³¹ See Tarjanne’s speech on the ITU website at www.itu.org, accessed September 2005.

³² Article XVI GATS, which must be read in conjunction with the Member’s Schedule of Specific Commitments, which sets out any exceptions the Member may have taken in the four different modes of supply under the GATS (Mode 1: cross-border, Mode 2: consumption abroad, Mode 3: commercial presence, Mode 4: movement of natural persons).

³³ Article 2.2(b) Reference Paper to the Fourth Protocol of the GATS.

³⁴ For a more extensive analysis see the ITU paper: *Transforming Economic Relationships in International Telecommunications*, Chairman’s Report of the Seventh Regulatory Colloquium, Geneva, December 1997.

negotiate for access in the destination country by using half-circuits ordered from the destination country's incumbent, a process that could be both costly and slow. With the right to install foreign PoPs granted by way of the GATS (provided that the destination country has scheduled appropriate specific commitments in the leased-lines market), the originating carrier is free to provide transmission capacity for the whole link, a system sometimes referred to as 'self-termination'.

- *Refile*: sometimes referred to as hubbing, re-origination or anonymous refile, where an operator directs its international traffic to a country where low charges apply for forwarding traffic to its ultimate destination or third country. As far as the third country is concerned, the traffic would appear to be originating from the country where refile is occurring. Refile depends on whether or not the refile country has a more advantageous settlement rate with the third country. If it does, then it makes sense to hub traffic through the refile country. Refile could take place at several hubbing points before the traffic reaches its final destination. This has been made possible through digital technology where the quality of the signal does not degrade in the same way that analogue signals over older circuit-switched networks degraded with distance.
- *International alliances*: here alliances (whether by joint venture or merger) between operators who aggregate traffic over combined networks, serving mainly the needs of the Multinational Corporation. Conventional accounting rates are bypassed as the alliance provides an end-to-end or one-stop service both originating and terminating calls at either end of the global network.
- *Internet Telephony*: two general modes apply Voice over Internet Protocol (VoIP), which is predominately used over private networks proving a higher quality service and Voice over Internet, which is the transmission of voice calls over the public internet providing a generally lower quality of service. Because of its use of packet-switched networks internet telephony falls outside the conventional accounting rate system. Several jurisdictions including the US and Europe have looked at the possible regulation of internet telephony as a voice service, but have to date not sanctioned regulation or imposed universal service obligations or mandatory interconnection obligations on the providers of such services on grounds that internet calls are not directly substitutable for conventional voice calls primarily due to quality. With improvements in technology, however, this situation is fast changing. Interconnection and internet telephony are discussed in more detail in sections on interconnection and developments in multilateral telecommunications measures below.

International settlements based on correspondent relations between operators are negotiated by the operators themselves and not by governments. As such, the WTO as a diplomatic agreement between nation-states is not directly concerned with negotiations between private entities, but would have relevance for example where differential accounting rates are inconsistent with obligations under the GATS, and where specific commitments in telecommunications have been scheduled. This is exactly what happened in the *Mexico-Telmex* case.³⁵ As mentioned earlier, this inconsistency has been allowed to continue as a result of a gentleman's agreement during the talks on the Fourth Protocol (Basic Agreement on Telecommunications). The GATS provides for the replacement of the accounting rate regime with a cost-oriented interconnection regime.³⁶ As such, accounting rate reform has been the subject of intense discussion by the Council for Trade in Services.³⁷

Currently, ITU-D Study Group 3, charged with accounting rate reform, is developing a set of general principles for accounting rates that will include the cost components to be included in such rates, costing methodologies for determining rates, and providing for transition periods for developing countries. Clearly the intention is to move towards a cost-orientated system of interconnection payments for both call origination and call termination as called for by Article 2 Reference Paper. The ITU's study group is working with the Council for Trade in Services to achieve a workable compromise, given that accounting rate reform will have a significant effect on trade in telecommunications.³⁸ In the interim, the ITU's Understanding on Telecommunications Accounting, part of the ITU's Telecommunications Regulations, will continue to apply,³⁹ although it should be emphasised that the terms of the Understanding on Telecommunications have now been 'qualified' to some extent by the decision of the WTO's DSB panel in the *Mexico-Telmex* case.⁴⁰

3.2.3 Interconnection

Interconnection is the foundation for competition in telecommunications. Interconnection in telecommunications is based on the fundamental principle of 'any to any connectivity'. Control of interconnection by any undertaking

³⁵ Discussed in more detail in Section 3.4.2 on *The Reference Paper in light of Mexico-Telmex* below.

³⁶ Article 2.2 WTO Reference Paper.

³⁷ Job No. 2974, June 2000, WTO.

³⁸ Ibid.

³⁹ Section 3.1 above.

⁴⁰ See Section 3.4.2 on *The Reference Paper in light of Mexico-Telmex* below for a more detailed discussion of this case and its effect on international accounting rate settlements.

whether private or state-owned is essential to the control of the network and therefore the market for interconnection services, and the wider markets for domestic and international telecommunications. The upshot of this is that the regulation of wholesale interconnection is now seen as an important lever for telecommunications regulation. Furthermore, in an IP-based network environment,⁴¹ interconnection (and the corresponding right of ‘access’) is increasingly needed over different layers and platforms.

The voice telecommunications network is founded on the principle of *universal connectivity*: the integration of networks to enable a customer connected to one carrier’s network to call a customer connected to another carrier’s network. A handset, a subscription and a number is understood to mean that the customer can reach all other numbers and can itself also be reached. No one network can stand in isolation. To give customers value for money, a network operator is compelled to interconnect with others so as to increase the overall reach of its services. The right to interconnection is necessary in a deregulated telecommunications market. Indeed, interconnection can be described as the key fundamental to the viability of competition in telecommunications.⁴² However, the principle of ‘any to any connectivity’ is not the only concept as regards the regulation of interconnect. Two other important concepts also play an important role. They are:

- *Equal access* – this denotes the ability of the customer directly connected to the incumbent network to access retail services of the new entrant on a seamless and equivalent basis to that which the customer accesses the same retail services of the incumbent;
- *Non-discrimination* – this denotes the ability of the new entrant to be provided with interconnection services on no less favourable terms than the incumbent provides to itself.

These two concepts generally fall into a wider set of five concepts of good regulation including: transparency, accountability, proportionality, consistency, and targeting (defining precisely the object of regulation, duty bearers and any beneficiaries). Other forms of regulation also assist in the governance of interconnect, such as guidelines on pricing and on the way negotiations should be structured. In Europe, for example, the European Commission has issued the *Access and Interconnection Directive*⁴³ to help National Regulatory

⁴¹ Discussed in more detail in Section 3.4.3 on *Internet interconnection*.

⁴² See for example Colin Long’s discussion of interconnection in *Telecommunications Law & Practice*, 2nd edition, Sweet & Maxwell, 1995.

⁴³ Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on *access to, and interconnection of, electronic communications networks and associated facilities* (Access and Interconnection Directive). The EC’s new regulatory framework for electronic networks and services is discussed in more detail in Chapter 5 of this book.

Authorities (NRAs) in the various EC Member States deal with regulating interconnect.

Originally, in most developed telecommunication markets, the regulatory system protected against monopoly power by regulators controlling the market mainly through price controls imposed by way of license conditions and by encouraging competition. With increased liberalisation and deregulation, the setting of price controls has reduced with more emphasis being placed on enforcement of competition law. In this move from ex-ante (sector-specific) to ex-post (competition) regimes, the role of the government in the regulatory process is important. Often government will devolve its powers to an independent regulator or executive agency. Most countries that have opened their telecommunications markets to competition have also established general principles which must be followed by the incumbent in order to provide interconnection. Furthermore, at least 72 Member States, representing 93% of worldwide telecoms turnover have taken Specific Commitments under the Fourth Protocol (Basic Agreement on Telecommunications) that came into force on the 5 February 1998.⁴⁴ In addition, some Members undertook an Additional Commitment in the form of the regulatory reference Reference Paper which details, as part of a legal framework for liberalisation, specific rules on interconnection. Section 2.2 Reference Paper sets out interconnection obligations on major suppliers.⁴⁵ Under Section 2.2 (RP), interconnection must be provided:

- at any technically feasible point in the network;
- on non-discriminatory terms, rates and of a quality no less favourable than for the incumbent's own supply;
- in a timely fashion and on terms that are transparent and reasonable;
- at cost orientated rates;
- on an unbundled basis so that a buyer does not pay for unnecessary services.

Not all WTO Members undertook the additional commitment of the Reference Paper, applying the above principles of cost-based interconnection.⁴⁶ In effect,

⁴⁴ The Council of the European Communities ratified the Fourth Protocol by Decision 97/838 [1997] OJ L336.1.

⁴⁵ A Major Supplier is defined in the Reference Paper as one who has market power because of (a) its control over an essential facility or (b) its position in the market. The important doctrine of 'Essential Facilities' is discussed further at the Section 3.4.1 on the *Annex on Telecommunications and the Reference Paper* below.

⁴⁶ For a full list of current Member commitments, see the WTO website at: http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_commit_exempt_list_e.htm, accessed September 2005.

each country will have its own framework and principles of interconnect.⁴⁷ The structure of an interconnect agreement itself will be closely linked to and depend on the regulatory framework within which that agreement sits. However, the GATS now provides a gateway to a legal framework for cost-based international interconnect, and the provisions of the GATS are binding. For example, interconnection payments were the basis of the dispute between the United States and Mexico which resulted in the panel ruling in April 2004.

Since the coming into force of the Fourth Protocol in February 1998, new commitments have been made either by new Members, upon accession, or in a unilateral fashion by an existing Member. New negotiations on services, including telecommunications, were started at the Doha Round in 2000. Within the timeframe of the overall negotiating deadline of 1 January 2005, paragraph 15 of the Doha Development Agenda establishes that 'participants shall submit initial requests for specific commitments by 30 June 2002 and initial offers by 31 March 2003'. Pursuant to the Doha mandate, participants in the services negotiations have been exchanging bilateral initial requests since 30 June 2002. Between 31 March 2003 and 30 October, 39 Members had submitted initial offers.⁴⁸ Since the collapse of the Doha Round in 2006, negotiations have come to a standstill.

Clearly the ITU has an important part to play in continuing to develop standards for interconnection both at the circuit-switched and packet-switched level. These standards in turn will need to be reflected in progressive amendments to the regulatory Reference Paper in successive trade rounds. In this way the apparent roles of the ITU and WTO become clearer to see. In the next sub-section, the last on the ITU, we see the role that the ITU has taken in the development of standards relating to VoIP.

3.2.4 VoIP

Voice over Internet Protocol (VoIP) is another crucial area where the work of the WTO and ITU could overlap and where a commonality of approach will be required. One main reason for this is that calls via the internet will soon

⁴⁷ Although WTO law does not usually have direct effect, under European law (Cases 267–269/81 *Amministrazione delle Finanze dello Stato v SPI* and *SAMI* [1983] ECR 801), measures converting WTO obligations into European law have to be interpreted in accordance with WTO law (Case 69/89, *Nakajima All Precision Co. Ltd. v Council of the European Communities* [1991] ECR 2069). It can be implied therefore that EU Member States should directly or indirectly apply WTO and therefore General Agreement on Trade in Services (GATS) law.

⁴⁸ See WTO website at: http://www.wto.org/english/tratop_e/serv_e/s_negs_e.htm, accessed September 2005.

move from their prototype status to become a major mode of operation for carrying commercial traffic. This could happen entirely outside the conventional regulatory framework, and certainly outside the traditional settlement system. This is because VoIP, unlike most other technologies, for example wireless technology, allows operators to bypass the conventional accounting rate regime by sending voice calls in digital packets over an internet network (packet-switched network) as opposed to over a conventional circuit-switched voice network. The costs of transmission are far cheaper and consequently the marginal costs for the service are lower. The downside with VoIP has always been a quality issue in that calls over the internet have traditionally not been equivalent in terms of quality to calls over conventional voice telephony networks. This position however is fast changing. It is also important to distinguish between VoIP and Voice over the Internet. VoIP is a technical standard for internet calls over private networks whereas Voice over the Internet is a technical standard for internet calls over the public internet. VoIP over a closed private network is able to generate a much higher quality call than Voice over the Internet. The question that regulators are asking, particularly at the national level, is as internet calls come closer in quality to matching conventional voice calls, should the providers of such calls be regulated in the same way as conventional telecommunication operators? In Europe, the European Commission has been active in this area. In June 2004, the EC issued a Communication on the treatment of VoIP under the EU Regulatory Framework.⁴⁹ The Commission was building on the work of two earlier notices that it had issued on VoIP in coming to its more recent

⁴⁹ European Commission, *The Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework*, DG Information Society, Brussels, 14 June 2004. See: http://europa.eu.int/information_society/topics/ecom/doc/useful_information/library/commiss_serv_doc/406_14_voip_consult_paper_v2_1.pdf. The Communication explains the conditions that apply to each different kind of VoIP and the level of obligations that each provider will face according to the type of services offered. The 2004 Communication classifies VoIP services into three main categories: (i) Self-provided with no specific service provider charging a fee for providing a VoIP service: this category of service will fall outside the scope of the EC's Framework Directive because there is no service provided by a provider with the intention of making a profit, taking it outside the scope of an 'electronic communications service' (Article 1 Framework Directive); (ii) Corporate Private Networks/Internal Use: private electronic communication services will fall within the scope of both the EC Framework and Authorisation Directives; and (iii) Publicly Available IP Telephony: this provision is more complex and the type of regulation that will apply will generally depend on whether the VoIP service 'looks' more like an electronic communications service or whether it looks more like a conventional voice service and therefore is regulated as a Public Available Telephone Service (PATS) under the EC's Universal Service Directive 2002/22/EC (Article 2(c)). See the EC 2004 VoIP Communication for more details.

Communication.⁵⁰ Under these two earlier notices, VoIP was effectively exempted from regulation in the European Union in that the regulatory framework that applied to conventional voice telephony calls did not apply to VoIP. However, under the Commission's new regulatory framework for electronic networks and services,⁵¹ and following the principle of technological neutrality, all digital networks and services including VoIP services are covered by the EC's new framework including obligations for interconnection. In the United States, VoIP has been classified as an unregulated *information service* under the US Telecommunications Act 1996⁵² effectively exempting it from common carrier regulations under the US Telecommunications Act.

At the multilateral level, ITU-T is responsible for studies, naming, addressing and numbering, resource assignment for IP telephony and technical standards for IP telephony (H.323 Series). The work of the ITU-T will feed into the work of the Council for Trade in Services in discussing telecommunications. This will be particularly important for classification issues. The World Bank has already commissioned field research to determine how nation-states worldwide are classifying their telecommunication and internet services.⁵³ This is in part to determine a better system of more accurately classifying telecommunication services. Clearly there is a problem at present with the classification of telecommunication services, as the current Services Sectoral Classification List in Telecommunications service sectors (MTN.GNS/W/120) is woefully out of date as regards new internet-based services, such as VoIP. Classification of telecommunications services is discussed below (Classification of Telecommunications Issues).

3.3 THE WTO

The WTO Basic Telecommunications Agreement ('BTA') is a plurilateral agreement. Although only a subgroup⁵⁴ of the WTO's 144 members have made specific commitments for basic telecommunications, the full WTO

⁵⁰ Commission notice on the legal status of Voice on the Internet under Directive 90/388/EEC OJ C6, 10.1.1998 and Commission Communication on VoIP OJ C369, 22.12.2000.

⁵¹ Discussed in detail in Section 3.3.1 on *Classification of telecommunications services* below.

⁵² See FCC website at: <http://ftp.fcc.gov/cgb/consumerfacts/voip.html>, accessed September 2005.

⁵³ Discussed in Section 3.3.1 below (*Classification of telecommunications services*).

⁵⁴ As at 2003, there were at least 84 countries that had made offers under the BTA.

membership can take advantage of the trade benefits conferred by those commitments. Most countries making specific commitments under the BTA did so as part of the negotiations of the BTA, but countries may continue to make new (or improved) commitments through three principal routes: (1) when joining the WTO; (2) as part of a formal 'round' of negotiations; or (3) unilaterally.

In telecommunications, the last decade saw unrivalled privatisation and corporatisation programmes in many countries all over the world generating the free flow of capital into the sector. The BTA played an important role in putting in place a basic regulatory framework that would assist in protecting such investment. But where did this new capital come from? Large increases in international and domestic calls and reduced costs through more efficient transmission allowed firms to generate increased margins in conjunction with increased earnings, which in turn were retained in the sector fuelling new investment. Telephone companies became increasingly profitable and with the glimpse of the new economy, such operators were able to attract investment from other sectors. The present decade however is completely different. Now, telecommunication operators are faced with managing increasing levels of debt rather than investing in new capital. Furthermore, the industry is yet to prove that technological changes and new service development will have a net impact other than in reducing the cost base and adding intense pressure on current market prices. Coupled with debt arising from huge sunk costs, the advent of IP as the basic protocol and foundation stone for the production of new telecommunication services, the industry is fast transforming its whole production function. In this way, the Doha Round was completely different from the earlier Uruguay Round. The Uruguay Round culminated in the BTA, the Doha Round ended in a breakdown of negotiations, albeit with some small steps forward, notably as regards developing countries.⁵⁵

In the Doha Round of negotiations, launched in November 2001, WTO members sought to address how the special and differential (S&D) treatment provisions of the various WTO agreements might better be used to serve the interests of developing countries (which comprise the majority of the WTO membership). In the original timetable for the Doha Round, requests for market access were due by 30 June 2002, and initial offers of market access by 31 March 2003. The negotiations were set to conclude by 1 January 2005 as part of a single undertaking, with the original intention that virtually every item of the negotiation was part of a whole and indivisible package and could

⁵⁵ See the Doha Round section of the WTO's website at: www.wto.org, accessed September 2005. Developing countries and telecommunications are discussed in Chapter 7.

not be agreed separately – ‘*Nothing is agreed until everything is agreed*’. Unfortunately, some commentators would argue that little has been agreed, although the WTO is keen to stress the more recent agreements at Cancun.⁵⁶ At the time of writing, the Ministerial Declaration agreed at the Sixth Session of the WTO Ministerial Conference in Hong Kong in December 2005 set out two important provisions on S&D rights for LDCs including:

- Providing duty-free and quota-free market access on a lasting basis, for all products (97% of products for countries unable to provide 100%) originating from all LDCs by 2008;
- Ensuring that preferential rules of origin applicable to imports from LDCs are transparent and simple, and contribute to facilitating market access.⁵⁷

In future trade rounds a major bottleneck will be negotiations on mode 4 within GATS (movement of natural persons). Developing countries are pushing for increased liberalisation by developed countries under this mode and also of services of export interest to developing countries. DCs and LDCs are reluctant to make any further services concessions without more progress in this area, particularly de-linking the need by developed countries to link movement of natural persons *only* with commercial presence (mode 3).⁵⁸ In telecommunications, the World Bank has already commissioned research that will seek to answer a range of fundamental questions that will impact on whether or not members make new commitments in future rounds. These questions include:⁵⁹

- To provide an analytical framework for understanding, with specific reference to the telecommunications sector, the potential economic benefits and risks of accession and/or an enhanced offer under GATS/WTO.
- To explore the relationship between the WTO offer and the processes of domestic policy reforms within the telecommunications sector and other relevant policy developments, such as may be the case with competition policy.

⁵⁶ See the outcome of the WTO Ministerial Conference held in Cancun in September 2003 at www.wto.org, accessed September 2005.

⁵⁷ WT/MIN(05)/DEC, 22 December 2005, Annex F, para. 36.

⁵⁸ Wunsch-Vincent, S., and McIntosh, J., *WTO, E-Commerce, and Information Technologies: From the Uruguay Round through the Doha Development Agenda*, Markle Foundation, 2004, p. 77 citing GATS Council – Special Session, Report by the Chairman to the Trade Negotiations Committee, TN/S/9, June 2003.

⁵⁹ Terms of Reference, Telecommunications Trade Liberalisation and the WTO, World Bank, 2003.

- To demonstrate, through the use of case studies and other ‘primary’ data from selected developing countries, the economic benefits and risks that have resulted from the BTA offers made under the 1996/7 GATS/WTO framework.
- To consider the ways in which new trade agenda items may redefine the benefits and risks associated with the WTO Doha negotiations in telecommunications and to consider some of the new trade issues that are emerging as a result of broader deployment of ICTs across an economy.

In defining the work of the WTO post-Doha in telecommunications, greater emphasis will be placed on the new trade agenda items cited above. Defining these items is difficult as technology changes so rapidly, and so perhaps we need first to understand the *key dynamics* influencing the telecommunications industry, before beginning to define possible new trade agenda items. Key dynamics would include new technologies and data services, particularly technologies that will continue to lower international transmission costs, such as optical fibre, quite often used for transmission within cities as well as national and international transmission, satellite channels, Digital Subscriber Loop (DSL) technology which can enhance the capacity of the local loop offering broadband-type functionality, the next generation Internet Protocol IPv6,⁶⁰ and fixed wireless access. For developing countries, wireless access has been particularly important in reaching rural or mountainous areas difficult to serve with conventional fixed-line networks. As such, the reduction in the price of mobile network infrastructure and the success of operators in countries often considered to be too poor to offer commercial potential have influenced the priorities for negotiations under Doha and will do so in future rounds. It is anticipated that this will continue with the establishment of 3G technologies giving the potential to reduce the value of wire-based access in countries that do not already have viable wireline access infrastructure.

Besides the new technologies, there will be new industry *commercial*

⁶⁰ See for example http://www.ripe.net/ripe/meetings/archive/ripe-38/presentations/RIPE_Jan_01_%20IPv4_Address_Exhaust_draftB/sld001.html. Note that the Universal Mobile Telecommunications System (UMTS) industry is actively working for a move to IPv6. If successful, UMTS will need many addresses. It is a new service, potentially supported on new network infrastructures. Early adopters of IPv6 will face the additional cost in interfacing with IPv4 (where by far the most content is), in finding software that uses IPv6 without reducing performance, and in obtaining bandwidth to carry bigger v6 headers. In all probability, the two versions will co-exist and interwork indefinitely, but developing countries in particular will need to consider carefully the costs involved in a move to IPv6, as the incumbent will be required to compete with new entrants (often heavily resourced by foreign shareholders) while simultaneously foregoing monopoly rents.

structures, for example multinational corporation consolidation, and the emergence of multi-technology operators and service providers through joint ventures, mergers or other technology transfer arrangements. Market structures have fundamentally moved away from legacy circuit-switched networks to packet-switched networks, giving rise to new categories of operator, such as internet backbone operators, transit operators and application service providers. Together with the new operators have come changes in the way in which such operators interconnect to exchange traffic, often based on an exchange of leased-line capacity on a settlement-free basis (peering) and moving to sophisticated methods of negotiating transit on a payment basis. Regulators have mostly exercised forbearance in regulating such agreements between internet service providers, but have been slowly moving in this direction as greater volumes of internet traffic are originated and terminated. Other key dynamics would include the effect of huge sunk investments by operators and service providers, explaining their waning interest in entering new, developing and higher risk markets, and finally, the effect of new regulatory mechanisms, such as auctions (for example for UMTS), and the large investment in new licences.

These industry dynamics will shape the emerging new trade issues, for example bilateral trade and investment agreements. The emergence of bilateral and multilateral trading blocs through free-trade area agreements and customs unions will have a significant impact on future trade policy in telecommunications. At the bilateral level, the number of bilateral investment treaties (BITs) covering FDI in services reached 2,265 by the end of 2003, and involved 175 countries.⁶¹ There is a risk of multiple standards emerging when agreements are signed outside of the global multilateral trade institutions, which may reduce WTO negotiations to a 'lowest-common denominator'. However, regional initiatives can also assist WTO accession, through technical assistance programmes implemented at a regional level, or through the aggregation of regional demand (particularly where investors may be wary of investment in smaller countries, for example island states), for instance through customs unions or other regional regimes. The UNCTAD World Investment Report 2004 highlighted the shift to services, and the greater reliance placed on bilateral and regional trade agreements. At the time of writing, the World Investment Report 2005 indicates that during 2004, 73 new bilateral investment treaties were concluded, bringing the total number to 2,392.⁶² According to UNCTAD, the largest number of the new BITs signed during 2004 was between developing countries. BITs and FTAs are discussed in more detail in Chapter 9.

⁶¹ UNCTAD, *World Investment Report*, 2004, p. 221.

⁶² UNCTAD, *World Investment Report*, 2005, p. 24.

As mentioned above, internet networks have transformed the production function of telecommunications. For this reason, it will be necessary to consider the potential impact of the ITU's Recommendation D.50 on international internet interconnection agreed at the WTSA in October 2000. This recommends that 'administrations [that is, telecommunications operators] involved in the provision of international Internet connections negotiate and agree to bilateral commercial arrangements enabling direct international Internet connections that take into account the possible need for compensation between them for the value of elements such as traffic flow, number of routes, geographical coverage and cost of international transmission amongst others'. The implications of Recommendation D.50 are hard to gauge at this stage, but it could have far-reaching ramifications on the international trade of internet traffic between operators, and therefore indirectly affect consumer welfare.⁶³ New trade issues will also include, on the part of developed countries, the strengthening of competition principles, either at the WTO level or through some form of amendment to the Reference Paper,⁶⁴ through reforms required as a condition of World Bank funding of infrastructure or new legislative programmes, or perhaps through a separate plurilateral agreement. The extent to which existing commitments under the GATS and the Services Sectoral Classification List cover new service delivery sectors, such as services delivered over Transmission Control Protocol/Internet Protocol (TCP/IP) ('internet networks'), for example electronic commerce services, will also be included. In conjunction with this, the likelihood of 'bundled' sectoral commitments in complimentary service sectors, such as computer, audiovisual, distribution, advertising and financial sectors that seek to facilitate 'network-based transactions' in these sectors will also be a target, particularly for countries such as the United States which has actively pursued a 'Digital Trade Agenda' as part of its negotiations for bilateral and Free Trade Agreements with a range of countries including Singapore, Jordan, Australia and Thailand.⁶⁵ Finally, new trade issues in telecommunications post-Doha could also include new commitments on technical cooperation and capacity building made by member governments in the Doha Declaration.

⁶³ Internet interconnection is discussed in more detail in Section 3.4.3 below.

⁶⁴ The recent *Mexico-Telmex* case discussed in Section 3.4.2 *The Reference Paper in light of Mexico-Telmex* below highlights how the competition provisions of the regulatory Reference Paper for example have now been interpreted and further strengthened by the panel's ruling. However, some commentators would argue that the panel has created examples of anti-competitive practice, such as a restriction on cartels that has never been agreed by the WTO membership.

⁶⁵ See Chapter 9 on bilateralism.

3.3.1 Classification of Telecommunications Issues

As mentioned earlier, the classification of telecommunication services is important given that telecommunication services serve as valuable input in the production and distribution of other services. The classification of telecommunication services must be distinguished however from the classification of electronic intangibles discussed in Chapter 6 (The Classification of Electronic Intangibles in the WTO). The two are related but very distinct. In this subsection (3.3.1), we discuss the classification of telecommunication infrastructure and services by which electronic intangibles are delivered to final customers, and not the electronic content that is carried over such infrastructure. Given the rapid rate of convergence in this sector (broadcasting, information technology and telecommunications networks coming together) made possible through digital technology, the need to accurately classify relevant telecommunication services into their distinct service schedules is necessary for the trade negotiators to enter into request and offer negotiations as part of the trade round (often bilateral as offers are targeted at particular WTO members or groups of members). Classification of electronic intangibles is briefly mentioned in Section 3.3.3 for the sake of completeness. A more complete analysis is set out in Chapter 6.

The current classification system used by trade negotiators in telecommunications broadly splits telecommunication services into eleven basic categories, the most important of which include: fixed, wireless, national, international, satellite and data services. Many of these service offerings have now become blurred with the take-up of digital technology. For example, there is now a distinction to be made between geographic (identified by location) and non-geographic services (independent of location), conditional access systems (pay-per-view broadcasting systems) and video-on-demand. Currently, the WTO Agreements make use of two classification systems: the harmonised commodity description and coding system (HS), which applies to goods under the GATT, originally created under the auspices of the World Customs Organisation (WCO), and the classification list (W/120),⁶⁶ which is based to a great extent on the United Nations' *central product classification* (UNCPC), and applies mainly to services under the GATS. Although both the HS and the UNCPC were originally developed for statistical purposes, most scheduled commitments of WTO Members are based on these classification systems. The HS provides a system for the identification of products (product lines) that help Members identify the customs duties payable, and the collection and comparison of trade statistics. The HS is made up of a number of

⁶⁶ MTN.GNS/W/120 of 10 July 1991.

chapters that separate products by their physical characteristics rather than their end-use criteria. The chapters are further divided by headings, subheadings and finally, the six-digit HS code number. The HS nomenclature is used to classify anything that qualifies as a good and in accordance with its *physical characteristics*.

To add another layer of complexity, the United Nations also defines services as comprising all economic activities included under the ‘tertiary sector’ in the United Nations International Standard Industrial Classification (ISIC) (Rev. 3.1). Telecommunications and Posts is just one category that falls under the ISIC. Also included are financial services, business services, television broadcasting and entertainment. At the time of writing, the United Nations Statistical Classifications Section is now starting its fourth revision of the ISIC for use from 2007, to take account of changes in technology as well as deregulation, liberalisation and privatisation of previously state-controlled operations.⁶⁷ A new information and communication category is planned with second-tier groupings for telecommunications, broadcasting and internet providers (currently grouped under a sub-set of ‘transport, storage and communications’). The UNCPD mentioned above provides a greater level of disaggregation than the ISIC in that it specifies individual product categories (more than 600) as opposed to the ISIC’s general service descriptions.⁶⁸

Leading up to the negotiations on the BTA, the WTO Secretariat prepared an informal note on the full list of telecommunication services sub-sectors from the W/120 Classification List to help participants in the Negotiating Group on Basic Telecommunications in drafting their Schedules of Specific Commitments under the GATS.⁶⁹ The informal note and Notes for Scheduling of Specific Commitments under the GATS⁷⁰ were later incorporated into a final version of the Guidelines for the Scheduling of Specific Commitments under the GATS in 2001.⁷¹

Most WTO members have made commitments using the W/120 classification list,⁷² but some have used their own method of classification, and some a

⁶⁷ UNCTAD, *World Investment Report*, 2004, p. 145.

⁶⁸ *Ibid.*, p. 146.

⁶⁹ Draft model Schedule of Commitments on Basic Telecommunications, Job 1311, WTO, April 1995.

⁷⁰ Note by the Chairman of Group on Basic Telecommunications, S/GBT/W/2/Rev.1, WTO, January 1997.

⁷¹ S/L/92, WTO, March 2001.

⁷² It is also important to note that Schedules of commitments in the telecoms sector have been made on the basis of two ‘guidance notes’: (i) *Note for Scheduling Basic Telecom Services Commitments* (S/GBT/W/2/Rev.1); and (ii) *Market Access Limitations on Spectrum Availability* (S/GBT/W/3). The first note states that any services committed can be supplied for local, long-distance and international transmission on a public or

combination of the two.⁷³ The W/120 classification list basically divides telecommunications services into two broad categories: (a) *Basic* telecommunications services which include all telecommunication services, both public and private that involve end-to-end transmission of customer supplier information;⁷⁴ and (b) *Value-Added* telecommunication services which include services for which suppliers ‘add value’ to the customer’s information by enhancing its form or content or by providing for its storage and retrieval. As of March 2004, 41 WTO Members still used the W/120 classification list to submit their initial offers in the telecommunications services sector as part of the Doha Round. There are however on-going problems with the continued use of W/120, including the fact that many sub-sectors set out in W/120 are not technologically neutral, which will inevitably lead to redundant classifications as technology changes: that a number of service sub-sectors do not correspond with modern trade in telecommunications (telegraph and telex services⁷⁵); that categories of services potentially overlap particularly in light of converged digital services; that the link with the UNCPC creates confusion in that the UNCPC is itself not up to date, and that a number of telecommunication services now overlap with the computer-related services sector. Taiwan,

non-public basis, on a facilities basis or on a resale basis and with *any technology* (my emphasis) whether the user is mobile or not. This could mean that existing commitments would cover new and previously unexpected technologies, although some Members would argue against this. The second note allows for Members to impose restrictions on the number of wireless operators without such a restriction being classed as a ‘market access’ restriction. All commitments made under the BTA have to be read in conjunction with these guidance notes. The notes have also been included in Members WTO Scheduling Guidelines (S/L/91). The Scheduling Guidelines were further updated in March 2001, when the members of the Council of Trade in Services adopted ‘Guidelines for the Scheduling of Specific Commitments under the General Agreement on Trade in Services’ (GATS) (S/L/92). It is important to remember however that if there were deficiencies in the original classification, then the notes would not cover those deficiencies, and would only apply to those sectors actually committed.

⁷³ Gambia has based its commitments on the CPC, Argentina used partly the CPC and an own list of services, whilst some Members used their own lists for all scheduled telecom service commitments (Brunei, Colombia, Malaysia, Singapore, Sri Lanka and Uganda).

⁷⁴ Paragraph 1 of the Decision on negotiations on basic telecommunications services, which forms part of the Annexes of the Uruguay Round agreements, states that: ‘Negotiations shall be entered into on a voluntary basis with a view to the progressive liberalisation of trade in telecommunications transport networks services (hereinafter referred to as ‘basic telecommunications’) within the framework of the General Agreement on Trade in Services’.

⁷⁵ Although a small number of Least Developed Countries (LDCs) still use such services.

for example, has proposed that convergence services such as internet-based telecom services and the delivery of multimedia content should be covered solely by the telecom and audio-visual sectors and not computer services.⁷⁶ In light of these difficulties, the European Commission in 2004 issued a non-paper setting out suggestions for revision of the W/120.⁷⁷ The EC's primary suggestion is to simplify the classifications based on the complex and out-of-date W/120 by defining telecommunication services as 'any service consisting of the transmission and reception of signals by any electromagnetic means'. Commitments for all telecommunication services can then be made with that definition in mind,⁷⁸ and where members do not wish to make a commitment for a specific service (for example for broadcasting transmission), they would simply inscribe under the market access and national treatment columns 'none except for broadcasting transmission'.⁷⁹

The EC's definition will likely remove the artificial construct now existing between basic and value-added telecommunication services that is fast becoming increasingly redundant given the switch to transmission production based on the IP protocol. Furthermore, there is no doubt that the existing WTO Member Schedules on market access and national treatment in telecommunications will not be able to deal with the evolution of technology in this sector. The question remains whether the EC's suggested revision goes far enough to cover the new range of internet services or so-called 'complimentary services' based on transmission production switching to TCP/IP.

3.3.2 Network-based Transactions and Complimentary Services

The United States has for some time discussed the need for other WTO Members to schedule commitments in basic and value-added telecommunication services but also in 'complimentary services', such as distribution, express delivery, computer, advertising and certain financial services that can be integrated into network-based transactions.⁸⁰ The US argues that increased market access, particularly in GATS modes 1 (cross-border supply) and 3

⁷⁶ GATS Council – Committee on Specific Commitments, Communication from the Separate Customs Territory of Taiwan, Penghu, Kinmen, and Matsu, Computer and Related Services, S/CSC/W/37, January 2003.

⁷⁷ European Communities non-paper on classification in the telecommunication sector under the WTO-GATS Framework, 10 May 2004.

⁷⁸ By inserting the EC's suggested definition in the column identifying the sector.

⁷⁹ *Supra* note 77, para. iii (flexibility).

⁸⁰ See US paper on 'Market Access in Telecommunications and Complimentary Services: The WTO's Role in Accelerating the Development of a Globally Networked Economy' available from the WTO website database at: www.wto.org.

(commercial presence), is a necessary step for a WTO Member to create an environment attractive to increased foreign investment. Increasing market access commitments for services, enhanced through the use of networks, encourages growth of both the underlying network and the services that ride over it. Such new services could include banking, accounting, legal, market research, medical and dental, adult education, R&D services (natural science), news agency services and audiovisual. For DCs and LDCs, many of these services can directly and indirectly impact on the UN's Millennium Development Goals, discussed in Chapter 10. Given the US position of dominance as regards electronic commerce services, arguing for increased market access in complimentary services makes sense. But such an argument could also apply to other WTO Members active in developing their technology service *exports*. This would also depend crucially on whether technology service exports (electronic intangibles) were classed as goods under the GATT and therefore potentially liable to tariffs or services under the GATS and liable to governmental measures (discussed in the next section). Putting the problem of classification to one side, increased market access commitments in complimentary services could benefit not only the US but also a number of developing countries which have successfully grown their in-house software and hardware industries, such as Singapore, Chinese Taipei, Chinese Hong Kong, Korea, and India as selected examples. All of these countries have benefited from Multinational Corporations (MNCs) mainly in the developed world outsourcing back office and front office functions (business process outsourcing) (see Chapter 8 on technology transfer). The continued success of such outsourcing will also depend to some extent on potential protectionist measures imposed in the West to protect home market jobs.⁸¹

Under Article 5(b)(3) of the Annex on Telecommunications service suppliers are guaranteed that they can employ the *protocol* of their choice in delivering any service over a telecommunications network that has been scheduled by the WTO Member concerned as a specific commitment. This is an extremely important provision and could cover the cross-border delivery of internet services, although not all Members would agree with such an interpretation. The Annex on Telecommunications, of course, unlike the Reference Paper, applies to value-added services. The OECD has also undertaken research on considering various services as necessary 'inputs' for the facilitation of electronic commerce.⁸² The OECD argues that the 'rationale for a cluster approach

⁸¹ See report by Wunsch-Vincent, S. and McIntosh, J., *WTO, E-Commerce, and Information Technologies: From the Uruguay Round through the Doha Development Agenda*, Markle Foundation, 2004, p. 132, which cites several studies and news reports on the problem of increased protectionism, particularly in the United States.

⁸² TD/TC/WP(2000)9/FINAL.

in services negotiations is to allow an appropriate recognition of the commercial linkages between selected service sectors, without disturbing the Services Sectoral Classification List, on which existing schedules of specific commitments are based'.⁸³ The OECD argues that a basic cluster of services necessary for internet-based commercial transactions would include: telecommunications services, banking services, computer and related services, and delivery services (postal and courier). A more extended cluster could also be envisaged as including: advertising, legal, market research, photographic, website design, and distribution.⁸⁴ However for DCs and LDCs keen to facilitate growth of IT goods and services exports, none of these provisions will mean much unless the Quad countries for example go some way in eliminating other trade barriers, such as excessive requirements for temporary entry and exit of specialised technical personnel, discriminatory tax treatment for foreigners and excessive capital transfer and/or repatriation taxes, all of which could act as barriers to their exports. Other concerns include qualification requirements and procedures, licensing and local authentication requirements, and technical standards that act as non-tariff barriers.⁸⁵

3.3.3 Electronic Intangibles

The previous section discussed complimentary services, services that can be delivered as network-based transactions and the clusters of commitments required to be scheduled in order for such services to be provided through any of the modes of supply under the GATS. No doubt, such commitments if scheduled would advantage any member who is in a position to exploit the new market access opportunities, currently the developed countries, and in particular, the United States, but also an increasing number of DCs and LDCs as mentioned above.

The whole approach to network-based transactions and seeking commitments from WTO Members that will allow for complimentary services that could run over a telecommunication network is simply a stepping-stone to generating increased trade in electronic commerce. As mentioned, at present, the United States will be an obvious beneficiary of increased commitments, reflecting clusters of services and complimentary network-based transactions, given its strength in exporting electronic products, in this chapter referred to

⁸³ TD/TC/WP(2000)33/FINAL, para. 24.

⁸⁴ *Ibid*, para. 27.

⁸⁵ GATS Council – Special Session, Communication from Costa Rica, Computer and Related Services, S/CSS/W/129, November 2001.

as electronic intangibles.⁸⁶ As trade in electronic intangibles increases, there will however be another problem that will need to be resolved in the course of time, again linked to the problem of classification. Just as the WTO is facing the issue of how to refine and redefine the W/120 classification system for telecommunication services under the GATS, so too is it facing difficulty in defining whether electronic intangibles should be classed as goods under the GATT or as services under the GATS or as some form of hybrid product. *US-Gambling* has set an important precedent in this area, particularly as regards the applicability of the GATS to the trade in cross-border electronic services. This important issue is discussed at length in Chapter 6 (Section 6.6).⁸⁷

3.4 DEVELOPMENTS IN MULTILATERAL TELECOMMUNICATION MEASURES

The aim of this section is to discuss the most interesting new developments emerging in the regulation of international telecommunications. It examines the current weakness of the Reference Paper in light of recent case law and the need for the Reference Paper to be amended as IP networks begin to dominate. The section begins with a discussion of the two most important WTO instruments affecting *trade* in international telecommunications, besides the schedules of specific commitments of the WTO members themselves (both the 1994 and 1997 commitments). Section 3.4.1 below discusses the Annex and Reference Paper, and Section 3.4.2 discusses the weaknesses of the Reference Paper in light of the recent *Mexico-Telmex* case heard by the WTO's DSB⁸⁸ in 2004. Section 3.4.3 looks at the increasing relevance of internet interconnection as operators switch their transmission production functions to ones based on the IP protocol. Section 3.4.4 looks at whether or not the Annex or the Reference Paper can cover a new breed of internet networks and the ITU Recommendation D.50 and the APEC principles, both of which relate to the potential regulation of internet traffic.

⁸⁶ A generic term, sometimes referred to as e-products or digital goods and services, ranging from MP3 files, pay-per-view/video-on-demand movies to customised software in sectors as diverse as audiovisual to health and education. Such products, often a digital combination of binary code, are referred to in this chapter as 'electronic intangibles'.

⁸⁷ Chapter 6 (The Classification of Electronic Intangibles in the WTO). The issue of electronic intangibles, 'content rich' products that can be delivered directly to consumers by way of the internet, is likely to become one of the most eagerly contested issues in the WTO as trade in electronic commerce continues to escalate, estimated to reach at least US\$2.4 trillion in the Asia-Pacific region alone by 2006 (Gartner Group, report in the *People's Daily Online* 2001).

⁸⁸ *Mexico – Measures Affecting Telecommunications Services*, WT/DS204/R, 2 April 2004.

3.4.1 Annex on Telecommunications and the Reference Paper

Annex on Telecommunications The Annex on Telecommunications is a separate annex to the GATS and negotiated at the time of the Uruguay Round. The Annex applies to measures of a Member that affect access to and use of its public telecommunications transport networks and services.⁸⁹ The Annex does not apply to measures affecting cable or broadcast distribution of radio or television programming.⁹⁰ Furthermore the obligations contained in the Annex are aimed at facilitating the exploitation of scheduled commitments only, and do not create a right to supply a service where no scheduled commitment for that service exists.⁹¹ As such, the Annex is basically an instrument that provides a certain level of security for those investors investing in ancillary service markets, such as banking and insurance, where market access commitments have been scheduled, and which require access to the local Public Switched Telephony Network (PSTN) to provide such services. Importantly, the Annex at paragraph 5(e) provides for service suppliers to be able to interconnect with the incumbent's network using any *interface protocol* to do so. The question then arises whether the Annex provides for access to internet networks and also for the interconnection of an internet network with the local Public Switched Telephony Network (PSTN). The issue is still under debate within the Council for Trade in Services, with many developing countries arguing that no such access was scheduled for in many Members' commitments. However within the GATS Council, Members have suggested that the AT will apply to access to and use of an internet network, where that network is defined within domestic law as a public telecommunications transport service and/or network, that is, a public network.⁹² In the UK, an early starter for developing pro-competitive regulatory regimes in telecoms, the national telecommunications regulator OFTEL (now OFCOM) considered that an internet network could be a public network if addresses on that network (IP addresses for example) were available through a national numbering plan.⁹³

⁸⁹ Para. 7.288 Report of the Panel on *Mexico – Measures Affecting Telecommunications Services*, April 2004.

⁹⁰ Para. 1, WTO Annex on Telecommunications.

⁹¹ Para. 7.293 Report of the Panel on *Mexico – Measures Affecting Telecommunications Services*, April 2004.

⁹² GATS Council, Progress Report to the General Council, Work Programme on Electronic Commerce, S/L/74, July 1999, para. 19.

⁹³ Kariyawasam R., 'Interconnection, Access and Peering (Law and Precedent)' in *Telecommunications Law* (eds Waldon, I., and Angel, J.), Blackstone Press, 2001, pp. 185–203.

Reference Paper Whereas the Annex applies to value-added services, the Reference Paper applies to basic telecommunication services.⁹⁴ The regulatory Reference Paper to the BTA takes the form of an additional commitment to a Member's schedule (not mandatory, but once accepted, is binding). As of March 2004, 35 WTO Members have taken out an additional commitment in the form of the Reference Paper in its entirety or with modifications and extensions. The Reference Paper ('RP') is a deceptively simple instrument, and yet its effect particularly on the domestic telecommunications policy of any one Member is potentially very far reaching, ushering in competition-type provisions to check abuse of monopoly power and interconnection safeguards to guarantee interconnection to the local incumbent's (publicly available) telecommunications network.⁹⁵ The RP sets out rules for governments on regulating 'major suppliers' of basic telecommunications services, major suppliers being defined as:

a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunication services as a result of:

- (a) control over essential facilities; or
- (b) use of its position on the market.

Essential facilities in turn being defined by the RP as:

. . . facilities of a public telecommunications transport network or service that

- (a) are exclusively or predominantly provided by a single or limited number of suppliers; and
- (b) cannot feasibly be economically or technically substituted in order to provide a service.

These terms seek to import an essential facilities doctrine at the multilateral level in terms of regulating telecommunications. The essential facilities doctrine concerns mandated access to an incumbent's network, where the incumbent has refused to grant access for no objective reason, or has withdrawn supply, or is applying some form of discriminatory policy in granting access (for example treating its own subsidiaries more favourably). In Europe, a string of cases

⁹⁴ Defined as 'the real-time transmission of customer supplier information between two or more points without end-to-end change in the form or content of the customer's information'. Section 3(b) GATS Annex on Telecommunications. See also para. 7.32 WT/DS204/R (*Mexico-Telmex* case).

⁹⁵ In other words, networks and services that are made available to the general public through a national numbering plan. Corporate private networks are therefore excluded, although Closed User Groups may or may not be included depending on whether the member in question has excluded such a provision or not in its own Reference Paper.

including *Stena Sealink*,⁹⁶ *Magill*,⁹⁷ and *European Night Services*⁹⁸ sought to introduce the essential facilities doctrine into European law, but was eventually made more difficult to apply pursuant to the test adopted in the case of *Oscar Bronner*.⁹⁹ The Bronner judgment effectively heralded the end of the practical use of the doctrine in Europe unless the test for establishing an Essential Facility and refusal for access as set out in Bronner can be satisfied.¹⁰⁰

Instead of using a term such as ‘major supplier’ to describe dominance, under its new regulatory framework for electronic networks and services, the European Commission has instead decided to opt for a definition of *Significant Market Power* as being equivalent to dominance and defined under Article 14(2) Framework Directive:¹⁰¹

An undertaking shall be deemed to have Significant Market Power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.¹⁰²

The European Commission’s new regulatory policy for electronic networks and services is discussed in more detail in Chapter 5. Unlike the definition of Significant Market Power (SMP) used by the EC, the WTO’s reference to major supplier does not appear to cover a situation of joint monopoly or a potential oligopoly, where none of the operators alone in the market would appear to enjoy dominance, but collectively either actively or passively, they could enjoy dominance. In this respect, the EC’s definition of market power is more far reaching.

The RP also requires governments to take measures ensuring that major

⁹⁶ *Sea Containers v. Stena Sealink* Commission decision OJ 1994 L15/18.

⁹⁷ *Magill* Joined cases C-241/91P and C-242/91P.

⁹⁸ *European Night Services* Decision 94/663, [1994] OJ L259/20.

⁹⁹ *Oscar Bronner v. MediaPrint* Case C-7/97.

¹⁰⁰ (i) On the basis of a relevant market analysis, lack of access to a facility such as the alleged essential facility must have an effect on competition on the relevant market; and (ii) it must not be economically viable for an ‘objective competitor’ comparable in size to the holder of the alleged essential facility to replicate or duplicate the actual facility in question. If both prongs are satisfied, then breach of Art 82 will occur if no objective justification is given for refusal of access to the facility.

¹⁰¹ Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services, 7.03.2002.

¹⁰² This reflects the judgment of the ECJ in Case 27/76 *United Brands v. Commission* ECR (1978). The EC refers to this concept of dominance in its interpretation of Significant Market Power as set out in Article 14 Framework Directive, mentioned above.

suppliers do not engage in anti-competitive practices such as cross-subsidisation,¹⁰³ using confidential information (for example on interconnection) in an inappropriate way, or unnecessarily withholding technical information (for example on standards) from competitors. Also covered are requirements for cost-orientated interconnection (which is not defined under the instrument), mandated interconnection with major suppliers networks for the provision of basic telecommunications services, and unbundled services so that users are not paying for network components or facilities that they do not actually require.¹⁰⁴ Provisions also exist for maintaining policy measures to achieve universal service (left to the discretion of the member), the creation of separate regulatory bodies from incumbent operators to allow for arm's-length regulation of the operator, and the use of transparent and non-discriminatory procedures for allocation and use of scarce resources (such as spectrum and numbering).¹⁰⁵ Probably most importantly, the RP provides for dispute settlement on interconnection at Article 2.5. Although the RP refers to the dispute settlement body as being the independent regulator envisaged by Article 5 RP, in fact, the settlement body could be any independent domestic body, or if the dispute is between governments as opposed to private entities, perhaps the Dispute Settlement Body of the WTO itself. Within the WTO membership, it is widely recognised that most disputes do not end up before a panel, having being settled by the respective governments as part of the procedure envisioned by the Dispute Settlement Understanding.¹⁰⁶ The combination of political pressure and threat of litigation before a WTO panel often strengthens the position of the regulatory authority that favours increased competition (Cowhey and Kilmenko). This is exactly what happened in the *Mexico-Telmex* case discussed in the next section.

3.4.2 The Reference Paper in light of *Mexico-Telmex*¹⁰⁷

Mexico-Telmex is a landmark WTO case, the first case heard by the WTO's DSB in the telecommunications sector. The panel's report stretching to over 238 pages has already produced intense discussion on its possible future implications for WTO Members, particularly those who still rely on high international

¹⁰³ Article 1.1 Reference Paper. Internet interconnection is discussed in more detail in Section 3.4.1

¹⁰⁴ Article 2 Reference Paper.

¹⁰⁵ Articles 3–6 Reference Paper.

¹⁰⁶ Cowhey, P., and Kilmenko, M., 'Implementing Telecommunications Liberalization in Developing Countries after the WTO Agreement on Basic Telecommunications Services', in *Services in the International Economy* (ed. Stern, R.), University of Michigan Press, 2001, p. 359.

¹⁰⁷ *Mexico – Measures Affecting Telecommunication Services*, WT/DS204/R, April 2004.

accounting rate settlements to fund their domestic infrastructure. Effectively, the case leads the way for a cost-based interconnection framework for the termination of international calls and for the interpretation of the term ‘anti-competitive’ practice, as found in the Reference Paper. The case also demonstrates how WTO law can impact private undertakings and State monopolies. The author’s intention in this section is to discuss some of the main issues arising from the panel’s ruling rather than describe in detail the historical relationship between the United States and Mexico that led to the dispute.¹⁰⁸

In *Mexico-Telmex*, the United States presented three main claims: (1) that Mexico had failed to ensure that its major telecommunications supplier provided interconnection on ‘terms, conditions . . . and cost orientated rates that are . . . reasonable’ in accordance with section 2 of its Reference Paper commitments; (2) that Mexico had not maintained appropriate measures to prevent Telmex, a major supplier, from engaging in ‘anti-competitive practices’ in accordance with section 1 of its Reference Paper commitments; and (3) that Mexico failed to ensure ‘access to and use of’ its public telecommunications transport networks and services, including private leased circuits, on ‘reasonable and non-discriminatory terms and conditions’, in accordance with its obligations under section 5 of the GATS Annex on Telecommunications.¹⁰⁹ In brief, the panel accepted claims (1) and (2) of the US claim. However on claim (3), the panel argued that a specific provision in Mexico’s GATS schedule allowed Mexico to prohibit the supply of cross-border services using leased-line capacity in Mexico.

An important element of the case focuses on *cross-border* interconnection rights. The US argued that the existence of an international accounting rate regime that may apply in certain cases to cross-border interconnection did not mean that cross-border interconnection is excluded from the scope of the Reference Paper.¹¹⁰ In contrast, Mexico argued that the provisions of the Reference Paper on interconnection do not apply to the cross-border supply of a service. It argued that the Reference Paper commitments were additional commitments undertaken under Article XVIII GATS, and could not therefore apply to cross-border interconnection, a market access issue covered under Article XVI. The panel however accepted the US position that the term interconnection ‘does not distinguish between domestic and international interconnection, including through accounting rate regimes’ and that ‘term interconnection within Mexico’s Reference Paper does not justify a restricted interpretation of interconnection . . .

¹⁰⁸ For a detailed discussion of the history of the case see the previous WTO working documents on Mexico – Measures Concerning Telecommunication Services, available on the WTO database at www.wto.org.

¹⁰⁹ *Supra* note 107, para. 7.1 Section VII Findings.

¹¹⁰ *Mexico – Measures Affecting Telecommunication Services*, WT/DS204/R, April 2004, para. 7.97.

which would exclude international interconnection, including accounting rate regimes, from the scope of Section 2 Reference Paper'.¹¹¹

Another important ruling that the panel made which will affect international telecommunications is its decision on qualifying the Understanding on Accounting Rates on whether or not Members' accounting rate settlement regimes will be shielded from dispute settlement, which the Understanding provides for.¹¹² The panel argued that the accounting rates described in the Understanding should be 'understood to be limited to: (a) traditional accounting rate that is not cost-oriented; (b) that can be interpreted as a measure of a Member, or that triggers a Member's obligations under Article VIII on monopolies; and (c) that applies discriminatory rates on the basis of the national origin of the cross-border traffic, and thus may be inconsistent with the MFN principle in Article II'.¹¹³ The crucial upshot of this is first, that not all international interconnection pricing is *excluded* from dispute settlement by the Understanding, only traditional accounting rate regimes with 'differential rates', and second, that the exclusion applies solely to dispute settlement not arising from the substantive obligations of the GATS, including the schedules of specific commitments. In effect the panel argued that the Understanding does not allow for all forms of cross-border interconnection to be *shielded* from dispute settlement.¹¹⁴ This ruling in discussing the provisions of the Understanding, which although not a legally binding instrument was long held to be a form of a gentleman's agreement, now effectively dilutes it.

The panel then went on to determine whether Telmex was a major supplier under the terms of the Reference Paper and also accepted that it had to define the 'relevant market' and whether Telmex had 'the ability to materially affect the terms of participation . . . in that market', and decide whether that ability resulted either from 'control over essential facilities' or 'from use of its position in the market'. Accordingly, the panel found the 'relevant market' to be the termination in Mexico of international calls from the US.¹¹⁵ The panel also determined that Telmex was a major supplier with respect to call termination in that it had the ability to materially affect the price of termination of calls from the United States into Mexico, as a result of its special position in the market, which allowed it to set a uniform price applying to all its competitors on terminating calls from the United States.¹¹⁶ Furthermore,

¹¹¹ Ibid, para. 7.117.

¹¹² Supra note 128, where the Understanding on Accounting Rates is set out in full.

¹¹³ Supra note 110, para. 7.136

¹¹⁴ Ibid, para. 7.138.

¹¹⁵ Ibid, paras 7.149–7.152.

¹¹⁶ Ibid, para. 7.159.

the panel determined that the price Mexico was charging for terminating incoming international calls¹¹⁷ was not in accordance with the principles of cost-orientation as set out in Section 2.2 Mexico's Reference Paper.¹¹⁸ The panel's extensive discussion on the meaning of the term *cost-orientation*, running to several pages of its decision (and based mainly on US-supplied methodologies which were for some reason not refuted by Mexico), will almost certainly be used in further DSB proceedings on interconnection in future years. This is an important precedent in international telecommunications, in that the term 'cost-orientation' was never defined in the Reference Paper.

The final significant element of the panel's ruling concerned the interpretation of 'anti-competitive practice' and is probably the one section of the ruling that has been the subject of criticism in terms of legal reasoning and methodology.¹¹⁹ The panel found that Mexico had a special obligation to control Telmex as a 'major supplier' to ensure that it did not engage in 'anticompetitive practices'. Anti-competitive practices are not defined as a term in Section 1 of Mexico's Reference Paper. The panel instead turned to the *Shorter Oxford Dictionary* and the *Merriam Webster* dictionary references to define terms such as *competition* ('rivalry in the market, striving for custom between those who have the same commodities to dispose of') and *anti-competitive* ('tending to reduce or discourage competition').¹²⁰ The panel also found that the meaning of 'anticompetitive practices' was informed by related provisions of some international instruments that address competition policy, for example, Article 46 of the 1948 *Havana Charter* for an International Trade Organisation already recognised that restrictive business practices, such as price-fixing and allocation of markets and customers, could adversely affect international trade by restraining competition and limiting market access.¹²¹ The panel also argued that 'the importance of ensuring that firms refrain from engaging in horizontal price-fixing agreements, market or customer allocation arrangements and other forms of collusion is likewise emphasised in the United Nations *Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices*'.¹²² The panel felt that it was also worth pointing out that both Mexico and the US are members of the OECD, and that the OECD has adopted a Recommendation calling for a strict prohibition of

¹¹⁷ Ibid, para. 7.230.

¹¹⁸ Ibid, para. 7.216.

¹¹⁹ For a good critical discussion of the panel's ruling on the competition issues raised by the *Mexico-Telmex* case, see Marsden, P., 'WTO Decides its First Competition Case, with Disappointing Results', *Competition Law Insight*, May 2004.

¹²⁰ *Mexico-Telmex*, para. 7.230.

¹²¹ Ibid, para. 7.236.

¹²² Ibid.

cartels.¹²³ It is interesting to note however that in negotiations for the Reference Paper, none of these treaties was discussed or referred to in a similar way. In short, the panel's interpretation of the competition provisions as set out in the Reference Paper were not envisaged by the WTO membership at the time of its negotiation.¹²⁴

In conclusion at paragraph 7.238 of its ruling, the panel found that 'the term "anticompetitive practices" in Section 1 of Mexico's Reference Paper includes practices in addition to those listed in Section 1.2, in particular *horizontal* practices related to price-fixing and market sharing arrangements'. This is perhaps one of the most contentious issues in the panel's ruling as it effectively sets aside Mexican law (state action doctrine) on the application of uniform rates for call termination. Mexico had argued that practices required by regulation could not be 'anticompetitive' as they were mandated by 'ILD rules that are part of the regulatory framework of laws intended to increase competition' by preventing predatory pricing by foreign entrants.¹²⁵ The European Communities, as a third party to the proceedings, agreed with Mexico on this point arguing that: 'the fixing of a uniform price cannot be an anti-competitive practice since uniform prices are required by law'.¹²⁶ The panel agreed that pursuant to doctrines applicable under the competition laws of some members, a firm complying with a 'specific legislative requirement of such a member (for example, a trade law authorising private market sharing agreements) may be immunized from being found in violation of the general domestic competition law'. However, the panel also argued that international commitments made under the GATS 'for the purpose of preventing suppliers . . . from engaging in or continuing anti-competitive practices' are designed to limit the regulatory powers of WTO members.¹²⁷

This is a remarkable finding in that the panel is using principles of international economic law (WTO law) to subvert national state doctrines. It must be said however that the European Commission has also found ways to circumvent the application of the State doctrine in DGIV Competition cases, for example in the *Deutsche Telekom* (DT) decision.¹²⁸ In the DT case, which concerns margin squeezing by the dominant incumbent Deutsche Telekom for wholesale prices offered for unbundled access to Deutsche Telekom's local loop network, although it was accepted that an undertaking could not be held responsible for breach of the anti-trust rules if such a breach occurs because of the State having

123 Ibid.

124 See Marsden's analysis, *supra* note 119.

125 *Mexico-Telmex*, para. 7.241.

126 Ibid.

127 Ibid, para. 7.244.

128 See Commission Press Release IP/03/717, 21 May 2003.

imposed on the undertaking a specific course of action (in this case the imposition of a price cap for local loop prices by the German regulator, *RegTP*), the Commission was still able to show that within the State-mandated action, the undertaking could have avoided the margin squeeze and subsequent infringement of Article 82 Treaty of Rome (abuse of a dominant position).¹²⁹ Clearly the European Commission's circumvention of the State action doctrine in *Deutsche Telekom* is not as direct as the panel's ruling in *Mexico-Telmex*. The author submits however that the panel in *Mexico-Telmex* perhaps went a little too far in its interpretation of the term 'anti-competitive practice'. For example in finding the use of price-fixing cartels as an example of an anti-competitive practice, the panel read into the interpretation of the Reference Paper an example of an anti-competitive practice (price-fixing cartel) that has never been agreed by WTO members in their schedules of additional commitments or in any WTO covered agreement. This aspect of the panel's ruling is perhaps a worrying precedent for future WTO cases in the telecommunications sector.

Further to an agreement between the governments of Mexico and the United States, Mexico has decided not to appeal the case and will comply with the panel's recommendations. However it did add that: 'the flaws in some of the panel's reasonings and findings were particularly important in the light of the ongoing service negotiations'.¹³⁰

3.4.3 Internet Interconnection

Given the panel's potentially wide and far-reaching ruling in *Mexico-Telmex*, the panel nevertheless did not have to rule on issues in relation to *internet* traffic. The relevant market considered in the case was the termination of international voice calls in Mexico, calls that had originated in the US. These calls were conventional voice calls transmitted over circuit-switched networks. The position might have been very different if the calls concerned had been internet calls or calls transmitted across packet-switched networks. Given the move by telecommunication operators to the transmission production of voice and data calls based on the IP protocol, future cases before the WTO's DSB may very well involve internet calls. In which case, we need to pose the question: what is the relevance to the international trade in telecommunications of the interconnection model under the BTA's Reference Paper on internet networks? For example, what effect would a move to include VoIP as either a voice or a

¹²⁹ See Keynote Address by Eric Van Ginderachter, European Commission Competition Directorate General, Communications and EC Competition Law, Brussels, October 2004.

¹³⁰ WTO News: Dispute Settlement body, 1 June 2004, 'DSB adopts panel report on Mexican measures affecting telecommunications services from the United States'.

packet-switched data service have on the Specific Commitments to the WTO of two of the most powerful actors in international telecommunications, either the US or EU?¹³¹ As part of a legal framework for liberalisation, the Reference Paper details additional commitments on regulatory principles, including specific rules on interconnection. As mentioned above, Section 2.2 Reference Paper sets out obligations on major suppliers for interconnection.¹³²

The coverage of some internet-related services, for example internet access services, by the BTA requires clarification. Some members have explicitly scheduled these services, whereas others regard internet access as being covered by either basic or value-added telecommunications commitments. Furthermore when an internet network is defined as a public telecommunications transport service and/or network by a member, the Annex on Telecommunications will apply to access and use of the network, guaranteeing access and use of the network for any service scheduled as a specific commitment. It is not entirely clear, however, to what extent this position is accepted by the majority of the WTO membership and whether the Annex ensures access to internet networks and services for service suppliers.¹³³

The point of interest is that for the supply of voice or packet-switched data transmission services (that is, TCP/IP services) for all modes of supply covered under both the US and the EU Specific Commitments made as part of the BTA negotiations, that is: (1) cross-border supply, (2) consumption abroad, (3) commercial presence and (4) movement of natural persons, both the US and EU Member States (for existing commitments) have placed no restrictions on market access or national treatment.¹³⁴ This would mean that if VoIP was classed as either a voice or packet-switched data service, then the interconnection obligations that both the US and EU have decided to accept as an Additional Commitment under their Schedule of Specific Commitments (that is, the Reference Paper) would apply to all major suppliers of such services in both the US and EU.¹³⁵ This in turn would place an obligation on the major

¹³¹ In a statement the then Director of the WTO's trade in services division, David Hartridge, stated the urgent need for WTO Member States to clarify their existing WTO agreements, making it clear which sections apply to e-commerce [and the Internet]. See Total Telecom: WTO Director slams dangerous e-commerce ideas (14 July 2000).

¹³² A Major Supplier is defined in the Reference Paper as one who has market power because of: (a) its control over an essential facility; or (b) its position in the market.

¹³³ S/L/74, July 1999.

¹³⁴ With certain exceptions however reserved for Luxembourg, Greece, Spain, Ireland and Portugal. See the WTO's Trade in Services paper GATS/SC/31/Suppl.3 11 April 1997.

¹³⁵ But this would depend on whether VoIP (over private networks) or Voice over the Internet (over the PSTN) could be classed as a Basic Telecommunications Service or an Enhanced Service. In its latest offer, the US would appear to class VoIP as an

suppliers to interconnect with ISPs (including ISPs in developing countries who are member states of the WTO) in accordance with WTO guidelines in the following way:

- at any technically feasible point in the network;
- on non-discriminatory terms, rates and of a quality no less favourable than for the incumbent's own supply;
- in a timely fashion and on terms that are transparent and reasonable;
- at cost-orientated rates; and
- on an unbundled basis so that a buyer does not pay for unnecessary services.

This obligation to interconnect by a major supplier would benefit any Internet Service Provider (ISP) providing public telecommunications transport networks or services. The transparency obligation in particular when applied to negotiations between large global Internet Backbone Providers (IBPs) and smaller ISPs, where the larger IBP is found to be a major supplier, would undermine the current industry practice of the IBP requiring negotiations to be governed by a non-disclosure agreement.

In other words, IBPs who are classed as major suppliers could be required to 'come clean' with their terms on peering and transit (interconnection agreements used for packet-switched networks). In addition, an ISP with third-country stakeholders could threaten to complain to the WTO if the IBP refuses to structure its peering arrangements on non-discriminatory terms with all its downstream customers, regardless of whether or not those customers are the IBP's own affiliates. The upshot of this would be that an IBP would no longer be able to give preferential terms for peering to its own downstream affiliates. Such a position could have major implications for US IBPs' revenue streams.

Interestingly, however, in the offer it made to the Doha negotiations,¹³⁶ the United States classified packet-switched services as *information services* (packet-switched information services) without any reference to the UNCPC

information service (see later commentary). The interconnection obligations of the Reference Paper apply only to major suppliers of Basic Telecommunication Services. At present, a debate is raging within the WTO as to whether internet TCP/IP applications can be rightfully covered by the Reference Paper to the Fourth Protocol (and in effect any of the WTO agreements). The US claims that internet services are covered by WTO agreements, particularly the Annex on Telecommunications, as they would like to see other services, such as distribution and financial services that can be integrated into telecommunications network transactions included in the offers of other Member States as part of the Doha negotiations. Certainly under the EU's Schedule of Specific Commitments to the WTO, the Reference Paper does cover packet-switched data services, which would include TCP/IP services.

¹³⁶ TN/S/O/USA, April 2003.

coding system discussed earlier. Under the US Telecommunication Act 1996, information services are *not* classed as telecommunication services and can therefore not be regulated as basic telecommunication services. Furthermore, VoIP services under US law are also currently classed as information services.¹³⁷ The Reference Paper only applies to basic telecommunication services. It would appear therefore that the US in classifying packet-switched services as information services has moved the regulation of these services away from regulatory capture by the Reference Paper (with its strict interconnection obligations) and under the capture of the Annex on Telecommunications (which catches only those services that have been scheduled as specific commitments).

The obligation to interconnect on non-discriminatory and transparent terms would appear only to cover all major suppliers under the Reference Paper. The term ‘major supplier’ discussed above applies to one who has control of an essential facility and/or is able to use its position in the market to influence competition and price. This definition follows competition law principles, but there is an important difference between the WTO’s definition of ‘major supplier’ and the term ‘dominance’ used by the European Commission as its new threshold for Significant Market Power (SMP) under the Framework Directive, and discussed earlier.

It is quite clear that the WTO’s major supplier term refers to the concept of ownership of an essential facility, which would seem to cover only those operators who were ‘super-dominant’,¹³⁸ whereas the term for ‘dominance’ used by the European Commission in its Framework Directive is based on an economic analysis test,¹³⁹ where dominance could include any operator who could consistently keep prices high independently of competitors regardless of whether or not that operator owned an essential facility.¹⁴⁰

Also, the WTO’s definition of major supplier refers to an operator’s ‘position on the market’. This is fairly vague wording and it is not entirely clear

¹³⁷ See Section 3.2.4 on VoIP above.

¹³⁸ This would be particularly relevant given the high threshold test for the interpretation of an ‘essential facility’ given by the European Court of Justice in the case of *Oscar Bronner v. MediaPrint* Case C-7/97 (1998).

¹³⁹ The definition for dominance under Community case law was originally seen in Case 27/76 *United Brands v. Commission* ECR (1978).

¹⁴⁰ However in the earlier version of the draft Framework Directive, the Working Paper on a new regulatory framework published by the Commission in April 2000, the term for dominance included a reference to an essential facility. Following criticisms that the Commission was trying to create a new level of ‘super-dominance’ that would catch only those operators who would have enjoyed special or exclusive rights before the European 1998 telecommunications liberalisation watershed (Full market liberalisation: Council Resolution 1994 OJ C379/4 sets a target date of 1 January 1998 for removal of special and exclusive rights of European telecommunications operators). The Commission dropped the reference.

whether such a definition would in competition law terms fall squarely within the definition for SMP (dominance) as used by the Commission. It may be that this distinction between ‘major supplier’ under the WTO Reference Paper, and ‘dominance’ under the new EU directives will become crucially important as regulators become more experienced with anti-competitive practices arising in the new TCP/IP markets.

3.4.4 ITU Recommendation D.50 and the APEC Principles

There has in recent years been fierce debate as to which operators should bear the cost of the international leased-line to and from third countries to the United States, where the third country hosts a substantial amount of content in the US or hubs a substantial amount of data traffic through US servers. Following the APEC Cancun Ministerial Statement in spring 2000, there has been extensive international debate on the principle of ‘appropriate mutual compensation’ for the use of internet resources. Relevant work continues in various public industry fora, and in closed commercial circles. The most vocal proponents of mandated cost-sharing have been the relatively developed Asian economies, plus Australia. The major telecommunications carriers in these countries, such as Singapore Telecom and VNSL in India, are all vying to become major internet traffic hubs. They see sharing the costs of international connections as a necessary step towards putting their cost bases on a more even footing with those of the USA.¹⁴¹ The less developed Asian economies recognise that they would not have much to gain from traffic-based cost-sharing in the short term, because the direction of traffic is strongly asymmetric towards them.¹⁴² VoIP could change this picture in that traffic flow will be bi-directional in contrast to traffic generated from requests to access websites, which is more unidirectional. This would mean a lot more traffic being carried by Asian operators out to US hubs, reinforcing the argument for a more balanced division of infrastructure costs between Asian ISPs and US backbone operators (currently titled in favour of the US market players).

Activities surrounding this issue seem to have shifted from debate towards practical implementation with the increasing role of commercial negotiators advancing internet interconnection arrangements. The proposed role of central authorities seems to have shrunk to one of possible competition law enforcement, should infringements be found.

¹⁴¹ See the research report produced for the UK’s Department for International Development and co-authored by the author on ‘Reducing the Costs for Internet Access for Developing Countries’, 2001, at: <http://www.wesra.com/cost1.htm>.

¹⁴² As the biggest part of the traffic is web pages downloaded from the USA to the developing country.

Traffic-based interconnect has already been introduced between major operators for certain services for commercial reasons (for example, global mobile roaming and VoIP). This is not a trivial step, as it entails measuring traffic and assessing its type, source and/or destination. Once implemented, these techniques may also be applicable to general internet traffic exchange.

The ITU debated this issue at the World Telecommunication Standardization Assembly 2000 (WTSA 2000). At the assembly, the United States voiced strong objections over the purpose of mutual charging arrangements, warning that it could have an adverse effect on the successful development of the internet. In the WTO, Australia and Chinese Taipei have proposed that where there are dominant players or *de facto* monopolies, Members must play a role in promoting fair competition.¹⁴³ Colombia has called for the elimination of barriers to access, specifically the high interconnection tariffs that backbone ISPs charge for connection to international backbone networks.¹⁴⁴ Mexico has called for internet interconnection principles to encourage the use of the internet for economic development.¹⁴⁵ Internet charging arrangements between providers of network services should be commercially negotiated and, among other issues, reflect:

- (a) the contribution of each network to the communication;
- (b) the use by each party of the interconnected network resources; and
- (c) the end-to-end costs of international transport link capacity.

APEC eventually adopted these provisions at Cancun. The ITU in Recommendation D.50 adopted a more diluted approach at Montreal in October 2000:

That administrations involved in the provision of international internet connections negotiate and agree to bilateral commercial arrangements enabling direct international internet interconnections that take into account the possible need for compensation between them for the value of the elements such as traffic flow, number of routes, geographical coverage and cost of international transmission amongst others.¹⁴⁶

It is still too early to determine the effect of the APEC provisions or the ITU's Recommendation D.50 on international internet communications. An ITU

¹⁴³ S/CSS/W/17, December 2000.

¹⁴⁴ GATS Council – Special Session, Communication from Colombia, Telecommunications Services, S/CSS/W/119, November 2001.

¹⁴⁵ GATS Council – Special Session, Communication from Mexico, Telecommunications Services, S/CSS/W/101, July 2001.

¹⁴⁶ ITU Recommendation D.50 available on the ITU website at www.itu.org.

Study Group (Study Group 3) followed up the recommendation with research on internet interconnection, eventually producing a set of guidelines to go with the Recommendation D.50 and which were adopted by the ITU in June 2004. The guidelines include supporting the need for traffic aggregation at local and regional exchanges to reduce the volume of internet traffic being hubbed abroad (usually in the US). The World Summit on the Information Society (WSIS) discussed in Section 7.6 has also reviewed the position of DCs and LDCs and internet interconnection costs and has called for funding to enhance connectivity and the creation of internet exchanges. This kind of infrastructure development may be well suited to private sector initiatives as part of the WTO/World Bank's *Aid For Trade* (AFT) program discussed in Section 10.6 of this book. At this stage, implementation will be at the commercial rather than regulatory level, and if commercial, then will depend entirely on the bargaining positions of the parties concerned. The position of developing countries under the APEC rules and ITU Recommendation D.50 is discussed more fully in Chapter 7 (Developing Countries and Telecommunications). The next chapter (Chapter 4) reviews EU (and briefly US) telecommunications policy as a backdrop to Chapter 5, which sets out a new theory for the regulation of advanced digital networks, the aim of which is to increase accuracy in the test for dominance (in competition law), and which the author contends will lead to increased transparency in negotiating access to the dominant (incumbent) operator's network. The relevance for such a theory to DCs and LDCs is then set out in Chapter 7 (Developing Countries and Telecommunications). The Layering Theory, as mentioned in Chapter 1, is based on EC and US telecommunications law and on computer science theory. Chapter 4 provides an introduction to the crucial regulatory terms, such as 'interconnection', 'access', and Significant Market Power to be found particularly in EC jurisprudence and on which the Layering Theory is based.

4. Overview of the European regulatory framework for electronic communications markets*

4.1 INTRODUCTION

It is very clear that the advent of digital networks and the increasing power and capacity of microchip technology has given rise to a vast new range of electronic services, and with the rise of such services, the emergence of new corporate relationships between operators at different levels of the delivery chain. Recently, Nokia, the mobile telephone manufacturer, signed an agreement with the software giant, Microsoft, and the US music download service provider, Loudeye, that will allow users to download music and ringtones to Nokia handsets equipped with Microsoft's digital-music-playing software.¹ The company has also announced a range of handsets that will compete with both the digital camera market and Apple's *iPod* MP3 player.² Regulators are always playing catch-up with technology, and although the European Commission has put in place an excellent and far-reaching regulatory framework for regulating electronic communications networks and services, which seeks to separate the regulation of digital content from the digital networks that carry the content, applying the principles of technological neutrality that seek to embrace both elements of competition law and sector-specific regulation,³ the question remains whether this new framework will continue to be adequate to deal with the complex range of protocols, layers and applications that constitute such new services.

* A version of Chapters 5 and 6 has been published by the author in *European Competition Law Review*, 10, 581–94, Sweet & Maxwell, 2005.

¹ See BBC news release: 'Nokia Announces Microsoft Tie-up' (February 2005) at <http://news.bbc.co.uk/1/hi/business/4264161.stm>, accessed April 2005.

² See BBC news release: 'Nokia Offers New Range of Phones' (April 2005) at <http://news.bbc.co.uk/1/hi/technology/4489485.stm>, accessed April 2005.

³ Which would draw on jurisprudence from the European Court of First Instance and European Court of Justice, together with cases decided by the European Commission itself.

Regulators are used to dealing with *single-application* networks, but increasingly face the challenge of *multi-application* networks. For example, one of the main problems that judges had in the *Microsoft* case, where the major concern was the leveraging of monopoly power from the Intel-compatible PC operating system market into the internet browser market, was *first* being able to determine the relevant market, and *then* being able to measure market power within that market.⁴ Also, in a different case involving Sun Microsystems and Microsoft, where Sun sued Microsoft in an attempt to prevent the capturing of the open standard of *Java*, and turning it into a closed standard, Sun failed to establish any antitrust claim because the Court of Appeals in applying standard competition analysis found that there could be no market distortion in the absence of a strict market definition, as a prerequisite to identifying any market distortion is a clear definition of the relevant market.⁵ By contrast, the Federal Communications Commission (FCC) in the United States has laboured with the distinction between an *information service* and a *telecommunication service* that has created disparities in regulating different communication sub-sectors, such as the cable and Digital Subscriber Line (DSL) networks, resulting in costly litigation and regulatory uncertainty.

This chapter looks briefly at the EU regulatory framework for telecommunications. By doing so, the author attempts to put in place the basic principles required to understand the more detailed Layering Theory that the author introduces in Chapter 5. Chapter 5 looks briefly at US regulatory principles and also reviews a growing body of academic thought that seeks to apply a *Layered Policy Model* for regulating a new generation of packet-switched networks that draws its origins from computer science theory. Chapter 5 then discusses how the Layered Policy Model might be adapted in the form of a new Layering Theory that could be applied to multilateral instruments, such as the Annex on Telecommunications and particularly the regulatory Reference Paper. The advantages of adopting a layered approach to regulation at the multilateral level for DCs and LDCs are explored more fully in Chapter 7. In this chapter (Chapter 4), the author starts with a brief review of the EC's consultation with industry and regulators in Europe, which led to the introduction of a new regulatory framework for electronic networks and services that came into force in July 2003. The chapter discusses the main objectives of the new regulatory framework, the instruments in the form of the directives that the European Commission used to bring the new framework into force,

⁴ *United States of America v. Microsoft Corporation* (364 US App DC 330) and also the European Commission Case COMP/C-3/37.792. Under US law, the question of market definition arises in US antitrust actions under section 2 of the Sherman Act and section 7 of the amended Clayton Act involving mergers.

⁵ See Section 5.3.1 below.

the basic structure of the framework, and key issues, including for example a new test of significant market power in the form of dominance.

4.2 THE EUROPEAN COMMISSION'S (EC'S) NEW REGULATORY FRAMEWORK FOR ELECTRONIC NETWORKS AND SERVICES ('NEW FRAMEWORK')

The New Framework built on earlier consultations with European industry and regulators as part of the 1999 Communications Review: the New Framework was the genesis of this earlier work. The Communications Review highlighted the plethora of directives, recommendations and notices that existed in the communications sector and which provided regulatory overload.

4.2.1 Objectives

The main objective of the New Framework was to streamline European policy instruments into five basic directives that would cover both the wholesale and retail sector (universal service and privacy). At the heart of the New Framework would be an engine working on both competition and *ex-ante* (sector-specific) drivers that would lift the regulatory burden on operators, leaving them free to operate in markets where effective competition was proven to be in place. In line with the EC's previous regulatory policy, the regulation of content was strictly separated from the regulation of infrastructure, although the New Framework was to cover the emerging broadband networks based on the Transmission Control Protocol/Internet Protocol (TCP/IP),⁶ including wireless, conditional access and broadcasting systems.

4.2.2 Instruments

With the objectives discussed above in mind, a new regulatory package including one Framework Directive⁷ and three directives on access, authorisations and universal service respectively was adopted by the Commission in July 2002.⁸ A

⁶ Defined Chapter 2.

⁷ Directive 2002/21/EC 'on a common regulatory framework for electronic communications networks and services', Framework Directive, OJ L108/33, 24.4.2002.

⁸ Directive 2002/19/EC 'on access to, and interconnection of, electronic communication networks and associated facilities', Access Directive, OJ L108/7, 24.4.2002; Directive 2002/20/EC 'on the authorisation of electronic communications networks and services', Authorisation Directive, OJ L108/21, 24.4.2002; Directive

few months later, directives on privacy⁹ and competition¹⁰ were adopted. All new directives came into force in July 2003. The directives are meant to be technologically neutral in that no distinction is to be made between an internet and any other type of network. The new framework now refers to ‘electronic communications’ and not ‘telecommunications’, and the same principles apply regardless of which kind of technology is used. So for instance, an ‘electronic communications network’ is defined at Article 2 Framework Directive as:

transmission systems, and where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet-switched, including Internet) and mobile terrestrial networks, electricity cable systems, to the extent that they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed.

Similarly, an electronic communications service is defined under the same Article as:

a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunication services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC,¹¹ which do not consist wholly or mainly in the conveyance of signals on electronic communications networks.

The Framework Directive makes a distinction between an *electronic communication* service and an *information society* service. Recital 10 of the Framework Directive makes clear that electronic mail conveyance and voice telephony are in the scope of the definition of an electronic communications service, but the hosting of web-based content, for example, is not. Nevertheless, it is not entirely clear from Recital 10 exactly which information society services are to be excluded from the definition of an electronic

2002/22/EC ‘on universal service and users’ rights relating to electronic communications networks and services’, Universal Service Directive, OJ L108/51, 24.4.2002.

⁹ Directive 2002/58/EC ‘concerning the processing of personal data and the protection of privacy in the electronic communications sector’, OJ L201/37, 31.7.2002.

¹⁰ Directive 2002/77/EC ‘on competition in the markets for electronic communications networks and services’, OJ L249/21, 17.9.2002.

¹¹ Directive 98/34/EC ‘laying down a procedure for the provision of information in the field of technical standards and regulations’ OJ L204/37, 21.7.1998, as amended by Directive 98/48/EC.

communications service. In this way, the New Framework also suffers from a lack of a clear distinction found in the US Telecommunications Act 1996, when distinguishing between an information service and a telecommunications service (discussed in Chapter 5).

4.2.3 Significant Market Power

Another important aspect of the EC's New Framework is the new definition of *Significant Market Power* (SMP), akin to a position of dominance as defined by EC competition jurisprudence,¹² and adopted by the Commission at Article 14(2) Framework Directive. This provision was introduced earlier in Chapter 3. The importance of an operator being designated as having SMP by a regulator (and following the procedures for conducting a market analysis set out under Articles 15 and 16 Framework Directive) is twofold: (a) the finding of an undertaking with SMP in a relevant market indicates (according to the Framework Directive), that *effective competition* does not exist in that market; and (b) *ex-ante* obligations, such as pricing obligations, might be imposed on an undertaking found to have SMP.¹³ In this way, the Commission quite effectively merges the use of both conventional competition-type procedures (defining a relevant market) with *ex-ante* (sector-specific) measures. To assist in the definition of markets, the Commission has also published a set of guidelines¹⁴ on SMP together with a Recommendation on relevant products and service markets within the electronic communications sector.¹⁵

Another important aspect of the New Framework is the Commission's thinking on access. There has long been a subtle distinction between the right to *interconnect* and the right of *access* in European telecommunications policy. The precursor to the Access Directive was the Interconnection Directive 97/33 (ICD), one of the Directives that fell under the Commission's Open Network

¹² Specifically Case 27/76 *United Brands v. Commission* ECR (1978).

¹³ Except for the special cases listed in Article 8(3) Access Directive.

¹⁴ Guidelines of the Commission 'on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services', OJ C165/6, 11.7.2002.

¹⁵ Commission Recommendation 'on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services', OJ L114/45, 8.5.2003. At the time of writing, the European Commission is consulting on a revision to this 'Recommendation'. See Section 5.4 (The Layering Theory and SMP reinterpreted) below).

Provision (ONP).¹⁶ The ICD set out a mandatory right to interconnect to a providing operator's network for those requesting operators who fell into Annex II of the Directive,¹⁷ where the providing operator had SMP.¹⁸ However SMP operators were only required to meet all reasonable requests for access.¹⁹

The Commission soon discovered, however, through its consultation with industry and regulators as part of the 1999 Communications Review, that access was proving to be the subject of many complaints to national regulators under both domestic telecommunications and competition law. Access, of course, is in many respects as important as interconnection in that it provides access to infrastructure for those service providers who do not own infrastructure of their own, but also because of the *network effects* generated by the access granted.²⁰ In the Communication Review, the Commission also recognised the difference between interconnection and access: while access to a network or facility is required to establish a commercial relation with the other network's customer, in interconnection there is no direct commercial relationship between the called customer and the provider requesting interconnection.²¹ The Commission defines Access at Article 2 Access Directive as:

¹⁶ Other directives included the Leased Lines Directive 92/44, the Licensing Directive 97/13, and the Revised Voice Telephony Directive 98/10. All these directives have now been replaced with the New Framework of directives.

¹⁷ Article 4(1) Interconnection Directive 97/33 (now repealed). Basically any operator who was licensed and controlled the means of access to one or more network termination points identified by unique numbers in the national numbering plan. There was uncertainty at the time whether this definition included Internet Service Providers, and therefore whether ISPs could claim interconnection rights, as ISPs controlled IP addresses and not numbers in the national numbering plan. However, ISPs argued that they were controlling access by having IP addresses allocated in accordance with a global addressing scheme. As such, some European Member States, including the UK and Germany, allowed certain ISPs to fall into Annex II and claim interconnection rights.

¹⁸ Defined differently to the concept of SMP under the New Framework. The Interconnection Directive at Article 4(3) defined SMP if an undertaking had a market share in excess of 25% in the markets defined in an Annex to the Directive (in summary, markets for fixed and mobile public network services, interconnection services, and leased-lines). The SMP test has now been replaced with a new concept of SMP akin to dominance (40%) as defined in Article 14(2) Framework Directive.

¹⁹ Article 4(2) Interconnection Directive imposed on SMP operators an obligation to meet all reasonable access requests in accordance with the principles (of non-discrimination, transparency, cost-orientation, unbundled charges, reference interconnection offer) set out in Articles 6 and 7 Interconnection Directive.

²⁰ Koenig, C., and Loetz, S., 'Framework for Network Access and Interconnection', in Koenig, C., Bartosch, A., and Braun, J.D (eds), *EC Competition and Telecommunications Law*, Kluwer Law International, 2002, p. 365.

²¹ 'Towards a New Framework for Electronic Communications Infrastructure and Associated Services: The 1999 Communications Review', COM(1999)539, pp. 25-6.

access means the making available of facilities and/or services, to another undertaking, under defined conditions, on either an exclusive or non-exclusive basis for the purpose of providing electronic communications services.

Interconnection is defined at Article 2 Access Directive as:

the physical and logical linking of public communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with users of the same or another undertaking, or to access services provided by another undertaking. Services may be provided by the parties involved or other parties who have access to the network. Interconnection is a specific type of access implemented between public network operators.

Given the increased significance of access by third party operators to an incumbent's network, particularly access to digital networks based on the TCP/IP protocol, the Commission also included at Article 12 Access Directive a much more powerful provision on access which would give regulators greater discretion to intervene on access disputes, and if necessary, impose access controls on undertakings, even in the absence of significant market power. The first paragraph of Article 12 sets out that national regulatory authorities may require operators 'to meet reasonable requests for, access to, and use of, specific network elements and associated facilities'. Article 12(1) Access Directive then sets out a list of possible obligations including:

- providing access to networks and facilities,
- unbundled access to the local loop,
- not withdrawing any existing supply of access,
- providing open access to technical interfaces, middleware, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services,
- sharing physical facilities and providing co-location.

Article 12 clearly recognises the significance of the new TCP/IP protocol as the basic transmission production standard of all modern packet-switched networks and attempts to put in place an access regime that can deal with the many services and applications that could run over such networks. The Article recognises that software just as much as hardware can function as an access bottleneck, and gives the regulator wide powers to deal with distortions on competition arising from such bottlenecks. However, it can be argued that even the far-reaching provisions on access defined at Article 12 Access Directive may not be sufficient to deal with the range of access issues that can arise with IP-based networks, particularly where a service consists of different component parts, with each component operating at a different level of the TCP/IP protocol stack.

4.3 CONCLUSION

Regulators are facing a much more difficult task, and as Denton aptly states: ‘Telecommunications policy makers are thus experts at regulating *single application networks*. Since the advent of packet-networks, the job of the regulator has become much more complicated as networks are no longer limited to one application.’²² The internet has made the new environment for the trade in digital services much more complex, as protocols are stacked one on top of the other. As such, regulators need to take account of the arrangements of telecommunication operators with their competitors at layers above that of the physical connection of devices and examine the competition implications of the software by which the applications that run over telecommunication networks operate. In this regard, the author explores a new way of looking at regulating complex digital networks that seeks to apply a layered approach to regulation, by proposing a new Layering Theory for increasing transparency and accurately assessing market power, which is discussed in the next chapter (Chapter 5).

²² Denton, T., ‘Protocol Interfaces are the New Bottlenecks: What the Internet Means for Telecom Regulation’ at www.tmdenton.com, accessed November 2004, p. 10.

5. A new layering theory for regulating communications networks and services?*

5.1 INTRODUCTION

The Layered Policy Model is quite different from that of the EC's new regulatory framework for electronic communications networks and services discussed in Chapter 4, and which also applies a mix of horizontal and vertical regulatory controls. In this chapter, in using the Layered Policy Model as a building block, the author sets out a new economic and legal framework for regulating complex digital networks, and then using that framework together with elements of the European Commission's new regulatory framework for electronic communications networks and services, suggests a new *interpretation* of the test of Significant Market Power (SMP) or dominance within EC jurisprudence that will have an immediate impact on any undertaking offering an electronic network and/or service within the European Community. This new interpretation of SMP, as suggested by the author, would apply specifically to the communications sector where network externalities apply. The communications sector to some extent already has an established body of soft and hard law applying directly to it, such as various notices and recommendations on the application of competition rules, and of course the Commission's new regulatory framework for electronic networks and services (discussed in Chapter 4). The author suggests that this new test of interpreting SMP should be used as *guidance* for regulators in competition cases before national regulatory or competition authorities in the area of communications, or by the Commission at the pan-European level, and specifically when defining the 'relevant market' for complex internet networks and services. With a new interpretation of SMP (or dominance) in hand, the author then reviews the WTO telecommunication measures, such as the Reference Paper, which

* A version of this chapter has been published by the author in *European Competition Law Review*, 10, 581–94, Sweet & Maxwell, 2005. It has also been presented at the Conference on Industrial Organisations, Athens Institute for Research, Athens, 9–16 June 2005.

specifically makes reference to the concept of controlling an essential facility and/or taking advantage of its position in the market (akin to dominance) to suggest amendments that would allow the Reference Paper to specifically cover advanced digital networks. The advantages of taking such an approach to DCs and LDCs are discussed in Chapter 7.

5.2 THE LAYERED POLICY MODEL

The idea of a layered policy approach to regulating telecommunications has been discussed by several US authors in different ways, for example, Werbach,¹ Denton,² and Frieden,³ but further developed by Sicker and Mindel.⁴ The author builds on the work of these authors by putting forward a new layering theory for the regulation of complex digital networks, which seeks to more accurately identify those operators having actual market power in the relevant markets for communications services in the European Union. In doing so, the author argues, National Regulatory Authorities (NRAs) and/or National Competition Authorities (NCAs) acting under principles of concurrency will be able to accurately impose either sector-specific measures or competition measures to adequately regulate for effective competition in the EU communications market. The author argues that one important by-product of that process for DCs and LDCs interested in exporting electronic services and network products to developed countries by way of digital networks, would be greater transparency and non-discrimination in third country operator access to developed country markets (discussed in Chapter 7). The author contends that this would particularly be the case if WTO measures, such as the Reference Paper, were also to be amended in light of the Layering Theory. In developing the argument, the author starts with the framework for telecommunications regulation in the United States, one of the biggest markets in the world, and one of the first to introduce competition in the marketplace.

¹ Werbach, K., 'A Layered Model for Internet Policy, The Regulation of Information Platforms', *Journal of Telecommunications and High Technology Law*, 2002.

² Denton, T., 'Protocol Interfaces are the New Bottlenecks: What the Internet Means for Telecom Regulation' at www.tmdenton.com.

³ Frieden, R., 'Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach'.

⁴ Sicker, C.D., 'Further Defining a Layered Model for Telecommunications Policy', Draft Paper for the Department of Interdisciplinary Telecommunications, Department of Computer Science, University of Colorado at Boulder, January 2001.

5.2.1 The United States

In the United States, under the Telecommunications Act 1996 (the ‘Act’), the ‘silo model’ for regulation of telecommunications applies in that each title of the Act imposes regulatory conditions based on the type of infrastructure on which a telecommunications service is offered. So, for example, Title II Act regulates wireline telephone networks as common carriers, Title III regulates wireless networks, and Title IV regulates cable networks. However because of the move to the IP protocol as the basic transmission production standard for packet-switched networks, voice, audio and video, packetised service can now travel over any digital network. The effect of this (in the United States) has been to cause asymmetry of regulation over the different modes of transport, for example broadband services for residential and for small businesses provided by Digital Subscriber Loop (DSL) technologies over the PSTN are required to be unbundled, whereas broadband services provided by cable modems over HFC cable networks, operated primarily by pay TV operators, are not.⁵ Frieden discusses this asymmetrical approach, arguing very coherently that:

[The Federal Communications] Commission deems telephone company provided broadband access a telecommunications service, but it has strongly indicated the desire to convert the classification of these offerings into the information services category. Such a flip in vertical food chains evidences how inflexible and unworkable the definitions have become, particularly because a competing technology, cable modem access, already qualifies for the unregulated information service classification.⁶

In addition in the US, following the *Computer Inquiries*,⁷ a different set of rules emerged for the regulation of services that travelled over a telecommunication

⁵ Hausman J., ‘Competition and Regulation for Internet-related Services: Results of Asymmetric Regulation’, MIT, August 2001.

⁶ Frieden, supra note 3, p. 23. In making this comment, Frieden refers to various important US Dockets, ‘Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, Notice of Proposed Rulemaking’, CC Docket No. 02033, 17 FCC Rcd. 3019 (2002), and ‘Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling’, GN Docket No. 00-185, ‘Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities’, CS Docket No. 02-52, Declaratory Ruling and Notice of Proposed Rulemaking, FCC 02-77, 2002 WL 407567 (rel. 15 March 2002).

⁷ Amendment of Section 64.702 of the Federal Communications Commission’s Rules and Regulations (Second Computer Inquiry) CC docket No. 20828 (note that this has been considered and further reconsidered in several further FCC hearings); Amendment of Section 64.702 of the Federal Communications Commission’s Rules and Regulations (Third Computer Inquiry) CC Docket No. 85-229 (as with the Second Computer Inquiry, the Third Computer Inquiry has also been considered and further reconsidered in several subsequent FCC hearings and cases). For more details see FCC website.

network, and the regulation of the network itself. Two classifications emerged, basic and enhanced. Basic services are classed as common carrier services and are regulated, whereas enhanced services are not. The Computer Inquiries effectively separated the basic transport network from that of the services that travelled over it, defining the original version of the Layered Model. The Act continued the separation of basic and enhanced services providing for telecommunication services (regulated) and information services (not regulated). Under the Act, a *telecommunication service*:

means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used⁸

Telecommunications:

means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.⁹

An *information service* under the Act is defined as:

the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.¹⁰

The Layered Policy Model suggested by Sicker et al., moves away from the vertical 'silo' concept adopted by the Act towards a more horizontal approach, which borrows its structure from that used to describe the TCP/IP protocol stack.¹¹ In the Layered Policy Model (as suggested by Sicker) the structure shown in Figure 5.1 applies.

⁸ 47 USC § 153(51).

⁹ 47 USC § 153(48).

¹⁰ 47 USC § 153(41).

¹¹ In his paper, Sicker stresses that while there is a correspondence with the TCP/IP protocol stack, the policy layers of the new model represent the providers of services at each of these layers and not the protocols or the implementation of these protocols. It should also be stressed that the TCP/IP protocol stack actually consists of seven layers: (i) Physical: hardware medium for signals such as cable, satellite; (ii) Data link: splits data into packets; (iii) Network: sends packets to addresses; (iv) Transport: ensures that packets arrive, are error-free and are in the current order; (v) Session: establishes and coordinates connection between computers; (vi) Presentation: allows transfer of files between different formats; and (vii) Application: e-mail, file

Content
Applications
Transport
Access

Source: Sicker, C.D., 'Further Defining a Layered Model for Telecommunications Policy', Draft Paper for the Department of Interdisciplinary Telecommunications, Department of Computer Science, University of Colorado at Boulder, January 2001.

Figure 5.1

Sicker argues that interconnection 'will be at the heart of this model'¹² and that providers of access, transport and applications may be subject to interconnection obligations on terms defined by their market power. He uses the concept of significant market power, but does not make clear in his paper what this means. However, for players who do have significant market power, a pricing condition could be invoked. Sicker states that: 'This condition will vary depending on power exerted: whether the player controls multiple Layers or significantly controls a particular Layer. For example, many cable and LECS [local exchange carriers] would be viewed as significantly controlling the access Layer. Other players, such as AOL/TW, would be viewed as operating in multiple Layers.' Fransman, in an earlier work, had arrived at a very similar structure, although he stopped short of proposing a layered model as the model for a new regulatory structure. Unlike Sicker and Mindel, who push for four layers, Fransman in his *Infocommunications* model suggests six:

- First (bottom) Layer: *Equipment & Software Layer*, describing for example switches, transmission equipment, routers, servers, customer premises equipment, and billing software. Vendors such as Nortel, Lucent, Cisco and Nokia would operate at this layer.

requests, file transfers etc. (See Denton, *supra* note 2 at p. 11.) The TCP/IP Protocol stack roughly follows the Open Systems Interconnection Model (OSI Model). The goals of the OSI model are to expedite communication built by different manufacturers and to make applications independent of the hardware on which they operate. However the OSI Model was not fully followed by the designers of the internet: the session, presentation, and application layers of the OSI Model are compacted into one: See Kessler, G., *ISDN*, McGraw-Hill, 1990.

¹² Sicker, *supra* note 4, p. 14.

- Second Layer: *Network Layer*, describing optical-fibre networks, DSL, local networks, radio access networks, ethernet and frame relay, ISDN and ATM networks. At this layer, vendors such as AT&T, BT, NTT, Quest and Colt operate.
- Third Layer: *Connectivity Layer*, describing internet access and web hosting, the IP interface, where operators such as Internet Application Providers and Internet Service Providers function.
- Fourth Layer: *Navigation & Middleware Layer*, describing browsers, portals, search engines, directory assistance, security, electronic payment, where companies such as Yahoo and Microsoft operate.
- Fifth Layer: *Applications Layer, including contents-packaging*, describing web design, on-line information services, broadcasting services, where Bloomborgs, Reuters, AOL-Time Warner, MSN, and Newscorp all operate.
- Sixth Layer: *Customer Layer*, where finally the market for customers is defined.¹³

Werbach has gone on to suggest five layers; physical, logical, application, interface and content layers.¹⁴ Whichever model is preferred all models suggest a horizontal approach to the treatment of the different layers that apply in IP-based transmission systems. Sicker (like Werbach) goes further than Fransman in suggesting the layered structure as a new model for *regulation*. In the next section, the author builds on this Layered Policy Model suggesting a new Layering Theory for regulating complex TCP/IP-based networks.

5.3 A NEW REGULATORY FRAMEWORK FOR TCP/IP NETWORKS?

In this section, the author takes the Layered Policy Model and goes *one step further*. He defines an electronic communications service by reference to a new term, its *Component Parts*, where each Component Part would fit into any one of the layers that Sicker describes. It is important to note that Sicker does not suggest this. Instead he suggests that the layers operate as *policy* layers ‘which represent the providers of the services, not the protocols or the

¹³ Fransman, M., *Telecoms in the Internet Age: From Boom to Bust to?*, Oxford University Press, 2002, p. 66.

¹⁴ ‘Breaking the Ice: Rethinking Telecommunications Law for the Digital Age’, draft, December 2004, available at: http://werbach.com/docs/breaking_the_ice.pdf, accessed July 2005, p. 14.

implementation of these protocols. . . . Therefore we should not confuse the technical implementation of the Internet with the policy goals of a Layered model.’¹⁵

It seems sensible not to confuse the Layered Policy Model with the TCP/IP Protocol Stack. However rather than describing each of the layers as representing the providers of the services as Sicker suggests, this author argues that an electronic communications service could either fall in its entirety into one of the access, transport, application or content layers, or will have component parts that will fit into any one or several of the layers simultaneously. We can therefore define an electronic communications service by reference to the layers. In this way, *any* electronic communications service that exists now or is yet to be invented can be defined by reference to the layers.

This can only be achieved if it is possible to take any service delivered over an IP network and *separate* out the component parts of that service and then *allocate* each component part to a specific layer, and then *price* the relevant component part.

With modern packet filtering technology¹⁶ it is now possible to perform content filtering based on the type of data being sent. These devices work by inspecting the payload of an IP packet and detecting the protocol in use. The detection works by matching a sequence of data with a predefined signature, although in practice the processing power needed to perform this sequence matching can be substantial. For example, a request for a web page from a web server is sent via the Hypertext Transfer Protocol (HTTP) protocol over a TCP connection. The first part of an HTTP request to retrieve a web page is usually a GET request.¹⁷ A content filter works by matching the first part of the data portion of the IP payload with an internal signature file. From this, the protocol *in use* can be derived. Because this filtering of the data portion of the IP packet is at a higher level in the OSI seven-layer model, the decision on whether to allow, disallow or record this traffic does not necessarily rely on the TCP/IP ports being used to transfer the data.

The ability to detect specific types of TCP traffic means that decisions can be made about which services are allowed or denied. The layer 5–7 devices allow *enforcement* of services. However once an operator has the ability to detect and measure which TCP services are in use, it can then *charge* for the use of such services. Traditionally, costing has been based around *network usage*; the amount of data transferred is usually multiplied by a cost (usually

¹⁵ Supra note 4, pp. 8–9.

¹⁶ Such as OSI 5–7 layer filtering technology.

¹⁷ There are other types of HTTP request but for the sake of simplicity we are only considering this one.

per megabyte). However, and as described above, now that the ability to detect and measure the usage of a TCP service is technically possible, it is feasible to create a charging structure based around protocol usage. It follows then that an operator will be able to charge a premium per megabyte of high value content traffic (such as MP3 files transferred using the Kazaa protocol for example – discussed further below), whereas HTTP protocol-based traffic may be priced at a cheaper rate.

This ability of an operator or undertaking to charge in accordance with protocol usage will lead to an increased complexity of charging structures. There are many different types of services that are available over the internet, and there are new protocols being developed yearly. However not all protocols are easy to decode and measure. This is due to the immaturity of detection methods. Furthermore, there is no guarantee that these detection methods will improve for all protocols in the future, as much will depend on the complexity of the protocol being used. Also if one protocol is encapsulated in another protocol, problems with detection are heightened, for example, if the HTTP protocol is encapsulated in a Virtual Private Network (VPN) tunnel, should the traffic be charged at the HTTP rate, or at the VPN rate?

This raises another more fundamental question: what if the protocol cannot be detected at all? Encrypted traffic, such as HTTPS, encapsulates traffic in such a way that an intermediary (such as a layer 5–7 device) cannot intercept/detect. So it would be possible for an operator/individual to circumvent the charging by encapsulating expensive service protocols over a cheaper services protocol, which is encrypted. In this situation, there may be a need to fall back on the customary usage charging method of ‘per megabyte’ charges.

At this stage in the discussion it might now be useful to look at a specific example of an electronic service and its constituent component parts to see how the Layering Theory might work in practice. As the Kazaa protocol has already been mentioned above, it might now be useful to consider the different protocols used when transferring MP3 music files over the internet using Kazaa software. The on-line music market has already attracted a great deal of attention with discussion of digital rights management technology and legislative provisions on anti-circumvention.¹⁸ Kazaa software was originally developed to allow users to transfer files via distributed network architecture. While the underlying Kazaa technology will transfer any type of file, the name Kazaa has become synonymous with swapping MP3 files over the

¹⁸ A discussion of on-line music infringement is outside the scope of this chapter. For more details see the range of court cases listed by the Recording Industry Association of America (‘RIAA’) in the US concerning on-line music at: www.riaa.com/news/filings/default.asp, accessed July 2005.

public internet.¹⁹ For convenience, we can call this service S. If we now imagine the originating user connecting to the internet using, for example, an Asynchronous Digital Subscriber Loop (ADSL) connection provided by the ISP (through a contract with the underlying network operator), then at the Access Layer, the ISP will use a least-cost routing function to find the cheapest way of transferring that file between the two points on the internet (originating and terminating). The least-cost routing function will then be that part of Service S that can be allocated to the Access Layer. Similarly, to transport the file, the ISP uses the same ADSL connection²⁰ to transport the file between the originator and the ISP's servers and then to send it over various peering and transit points to the ISP that will terminate the traffic at the receiver's machine.²¹ This process will include all the error-correcting features of both the TCP and IP protocols to ensure that the data arrives as a complete package. Again, the costs for transport will be covered by the charging arrangements of the ISPs for peering and transit, together with any subscription charges paid by the transmitter for using the originating ISP's network. All these costs can be allocated to the *Transport Layer*. At the *Application Layer*, the ISP will use a protocol that conforms with the Kazaa software and that allows the originator and receiver to communicate with each other. The ISP will charge for the use of that protocol and will know how much of the protocol is being used, following, for example, the methodology described above.²² As such, the use of the protocol will be that part of service S that can be allocated to the Application Layer. Finally, we have the MP3 file itself which will sit in the *Content Layer*: the use of the sound file will be governed by a copyright licence and that use will be the part of Service S which can be allocated to the Content Layer. In this way, each *Component Part* of Service S can be allocated to a specific layer, and can be priced.²³

¹⁹ Kazaa, Morpheus and other file-swapping programs are based on the technology of Gnutella, which is a decentralized file-swapping program. The Kazaa program enables users to search for files on the internet without recording any information on the servers of the company that distributes the software, and no files are copied into the company's server (*Metro-Goldwyn-Mayer Studios*, 259 F Supp 2d 1029).

²⁰ The ISP could also use alternative transport technologies, such as DSL, cable, fibre-optic, satellite etc.

²¹ Peering and transit has been discussed in Chapter 2 (see Chapter 2, note 63).

²² As mentioned earlier, this can be checked using complex (and expensive) OSI Layer 5–7 filtering technology, which will unpack the payload of the IP packet and inspect that payload.

²³ With the *price cost margin* defined (the gap between the price and the marginal cost of each component part). However, defining these costs terms is a complex business. The marginal cost can rarely be known with any precision and, although estimates of demand elasticity can be made, they are not readily available and in the context of an antitrust case are likely to be seriously disputed by the firms involved.

Using the Layered Policy Model, and adapting it, we can now define any service that is required, simply by looking at which of the layers that particular service's component parts fall into. A service may be made up of multiple component parts or only one component part. It follows that we should then be able to determine how many times a particular operator provides a particular electronic communications service (through use of an efficient system of cost accounting), and therefore the number of times a component part may or may not be used over a defined period of time at each layer. From such an analysis, a picture of SMP could soon emerge, in that based on accounting mechanisms; it should be possible to determine whether a particular undertaking has SMP for the supply of a relevant component part in a particular layer. In practice, under European law for example, three main areas have to be examined before SMP can be established: (i) the definition of the relevant market; (ii) the establishment of market strength; and (iii) the consideration of possible barriers to entry.²⁴ For the purposes of the current discussion of the Layered Policy Model (as adapted), the author has focused only on the first two areas, that of defining the *relevant market* and measuring *market strength*. The reason for this is that in defining the Layered Policy Model and then adapting it, the author is primarily concerned with establishing a regulatory framework for defining a relevant market for services that run over complex IP-based networks. Once a market can be defined, then market strength and barriers to entry follow.

5.3.1 Relevant Product and Geographic Markets

Market definition is often used as a tool to identify and define the boundaries of competition between undertakings.²⁵ In the US and Europe, the SSNIP test

²⁴ Rodger, B., and MacCulloch, A., *Competition Law and Policy in the EC and UK*, 3rd edition, Cavendish Publishing, 2004, p. 85. In the Communications sector, the European Commission has used existing jurisprudence on dominance and Community case law on defining relevant product markets, and encapsulated these principles into its New Regulatory Framework for electronic communications networks and services, discussed earlier at Section 4.2. Under the new framework, dominance is known as *Significant Market Power* and is defined at s. 14(2) Framework Directive. Furthermore the procedure for determining the relevant market for the communications sector is set out in Article 15 Framework Directive and the 'Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communication networks and services' (2002/C 165/03), July 2002. Also relevant is the Commission Recommendation 'on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services', OJ L114/45, 8.5.2003.

²⁵ Notice on the definition of the relevant market for the purposes of Community competition law, 1997 OJ C372/5, 9 December 1997.

is used ('Small, but Significant, Non-transitory Increase in Price') to help define the relevant market.²⁶ There are limits to SSNIP, for example in its reliance on the assumption that the initial price for the relevant product is set at a competitive level, and which also requires the collection of relatively accurate data over a substantial period of time (which is not always possible). Bird and Bird's detailed study on market definition in the media sector points out a further problem with SSNIP in its emphasis on a quantitative approach to substitutability:

[SSNIP tests] the reaction of consumers to a variation in price. Consequently [the SSNIP] test takes little if no account of qualitative criteria such as strategic competition and innovative decisions, on the grounds of which a company may decide to compete not only on prices but also on services.²⁷

In the relevant market for Component Parts in TCP/IP services and applications, competition will be based just as much on innovative service delivery as on prices. The European Commission has used SSNIP extensively in competition cases, but it is not the authoritative *legal* test: for that, the judgments of the European Community courts need to be examined.²⁸ Like SSNIP, the European courts' traditional test is also based on the concept of substitution of products, or interchangeability of products. The European courts use the economic test of *cross-elasticity* of demand, where high cross-elasticity will mean that any increase in price will result in significant shifts by consumers to other products.²⁹ When determining the relevant market, the courts will also look at the physical characteristics of the product, the price and its intended use. The courts will also consider *supply-side* substitutability: whether other suppliers, currently manufacturing other products, can switch production to the relevant products and market them in the short term without incurring significant additional costs.³⁰

²⁶ The SSNIP test was first used in the US Department of Justice Merger Guidelines 1982, and later adopted by the European Commission in its Notice 'on the definition of relevant market for the purposes of Community competition law' OJ C372, 9.12.1997. It is important to note that the SSNIP test is only one of a number of possible tests for market definition.

²⁷ Bird and Bird, 'Market Definition in the Media Sector: A Comparative Analysis', Executive Summary, para. 26, December 2002, available at: http://europa.eu.int/comm/competition/publications/studies/legal_analysis.pdf, accessed July 2005.

²⁸ Rodger and MacCulloch, *supra* note 24, p. 87.

²⁹ *Ibid.*

³⁰ See para. 39 of the Commission Guidelines on 'market analysis and the assessment of significant market power under the Community regulatory framework for electronic communication networks and services' (2002/C 165/03), July 2002. It is

The courts will also consider the *geographic market* for the product. For complex electronic networks and services, the definition of the geographic market can be as difficult to define as the product market. In several EU competition cases involving the media sector, for example, the geographic market has generally been limited by factors such (i) language; (ii) cultural preferences; (iii) regulatory barriers; (iv) content; and (v) price differentiation among different Member States.³¹ As regards complex internet networks and TCP/IP services, some of these factors would be irrelevant, and more important might be a test of network externalities, for example issues such as the interconnection of networks allowing a component part to have a wider geographic reach, such as a *roaming* application in voice telephony which allows (for example) a 3G mobile telephony service to achieve wider geographic coverage than the national home market for the service operator or end-user.³²

However, extending the geographic market in this way (as regards a supplier of a relevant component part) would depend entirely on whether the supplier is able to fulfil the same *customer requirements* in different geographic markets. If it can, then the geographic market can be extended. Usually, however, as regards conventional voice telephony services, suppliers are to some extent restricted by regulatory controls, such as the need to obtain a licence or class permit to operate in the country in question, in the absence of which the relevant geographic market would naturally be restricted. For telecommunications, the European Commission's approach to classifying relevant product and geographic markets was initially summarised in the *Olivetti/Mannesmann/Infostrada* case,³³ where the Commission established basic practice for telecommunications as categorising relevant product markets as domestic and international voice and data telecommunication services, and geographic markets as the extent and coverage of the network and the customers that can be economically reached and whose demands could be met (*network reach* – first limb),³⁴ and the legal and regu-

important to note that these Guidelines are based on earlier Commission 'soft law' in the form of the Commission Notice on 'Market Definition' OJ 1977, C372/5, and Notice 'on the application of the competition rules to access agreements in the telecommunications sector', OJ C265, 22.8.1998.

³¹ See *MSG Media Services* M.469, 6.06.1994, para. 46. See also cases such as *Bertelsmann/News International/Vox* IV/M.489, 6.09.1994, and *BIB/Open* IV/36.539, 15.09.1999.

³² See the case of *Omnitel*, Case IV/M.538, 27.03.1995, where the Commission had to consider the effect of a number of roaming agreements, concluding that such agreements should be taken into account when considering mobile services. As such, the coverage for such services was held to be EU wide.

³³ Case IV/M.1025, 15.01.1998.

³⁴ See also cases such as *International Private Satellite Partners* Decision 94/895, 15.12.1994, and *GTS-Hermes Inc./Hit Rail* Case IV/M.683, 5.03.1996, which seem to confirm network reach as the basis of the geographic market test.

latory system in place (*regulatory constraints* – second limb).³⁵ In more recent cases, the Commission has tended to follow regulatory constraints as being the more decisive factor in determining the relevant geographic market.³⁶ However, with the advent of the Commission's New Framework, and the move to a class-based system of licensing requiring notification only for undertakings providing electronic communication services, the regulatory constraint factor as the sole element in classifying the relevant geographic market may become less relevant: the rapid increase of TCP/IP services as the core transmission standard for undertakings providing electronic services may mean (instead) that the 'network reach' factor will become more significant.

Continuing the discussion of market definition, in applying the SSNIP test to the Layered Policy Model (as adapted), we would start with the smallest possible market, which would be the relevant market for a component part in layer α where α can range from 1 to 4, corresponding to each of the layers in the Layered Policy Model. We would then ask the question if a 5–10% increase in price for the component part is profitable for the ISP. If not, then the ISP does not have sufficient market power to raise the price for that component part. In other words, if there is evidence that customers would switch to purchasing other component parts from other ISPs when faced with a price increase, the original component part and substitute component part are considered to be in the same market. The procedure is then repeated until the point is reached where a hypothetical monopolist could profitably impose a 5–10% price increase. The relevant market for that component part in that layer is then defined. Once the relevant market has been determined, SMP can then be assessed, and if present, appropriate regulatory obligations can be applied to the undertaking that is found to have SMP in the relevant layer.³⁷

The type of relevant market definition set out above is quite a departure from the European Commission's general practice. Traditionally, the Commission has used two broad market definition categories in internet cases:

³⁵ For a very good and detailed discussion of European Commission practice in defining relevant product and geographic markets in telecommunications, see the book by Pierre Larouche, *Competition Law and Regulation in European Telecommunications*, Hart Publishing, 2000.

³⁶ See for example cases IV/M.853 *Bell CableMedia/Cable & Wireless/Videotron*, 11.12.1996, and IV/M.865 *Cable & Wireless/Nynex/Bell Canada*, 11.12.1996. See also *MetroHoldings Limited* [1999] OJ C19/18, 23.01.1999.

³⁷ For example, once an undertaking has been found to have SMP under the New Framework, the National Regulatory Authority can then determine whether to impose, maintain, amend or withdraw obligations on undertakings under Articles 16, 17, 18 or 19 of Directive 2002/22/EC (Universal Service Directive), or Articles 7 or 8 of Directive 2002/19/EC (Access Directive). Obligations can be applied to both wholesale and retail markets.

internet access services and internet content services. Internet content services can be further divided into internet content, internet advertising, website production and internet portals.³⁸ On the internet access side, the Commission has also found separate markets for dial-up internet access and dedicated internet access for residential users and small businesses, and corporate customers.³⁹ The Commission has also distinguished between broadband and narrowband internet access over DSL and cable networks.⁴⁰ In most of these cases, however, the nature of the digital service offered to customers was relatively straightforward. However as digital services continue to gain in complexity with ever increasing *network externalities*, market definition will become equally complex.⁴¹ As mentioned earlier, one of the main problems that judges had in the *Microsoft* case, where the major concern was the leveraging of monopoly power from the Intel-compatible PC operating system market into the internet browser market, was *first* being able to determine the relevant market, and *then* being able to measure market power within that market.⁴² Also in a different case involving Sun Microsystems and Microsoft, where Sun sued Microsoft in an attempt to prevent the capturing of the open standard of *Java*, and turning it into a closed standard, Sun failed to establish any antitrust claim because the Court of Appeals in applying standard competition analysis found that there could be no market distortion in the absence of a strict market definition, as a prerequisite to identifying any market distortion is a clear definition of the

³⁸ See Bird and Bird report, 'Market Definition in the Media Sector-Comparative Legal Analysis', Report for the European Commission, December 2002, pp. 108–10 at: http://europa.eu.int/comm/competition/publications/studies/legal_analysis.pdf.

³⁹ See European Commission cases *BT/Esat* COMP/M.1838, 27.3.2000, *Telia/Telenor* COMP/M.1439 13.10.1999 and *Telia/Telenor/Schibsted* Case NoIV/JV.1 27.05.1998.

⁴⁰ See EC cases *AOL/Time Warner* COMP/M.1845 11.10.2000 and *UGC/Liberty Media* COMP/M.2222 24.04.2001.

⁴¹ *Network externalities* emerge when the use of one product is more beneficial to a user when more people use it. Network externalities are present in a network environment, such as the internet, which is a network of networks, since it is based on connectivity and protocol compatibility. In an on-line environment, services have to be interoperable to achieve connectivity, and therefore network externalities can limit competition by increasing the costs of entry, providing a significant advantage to first comers who can establish services as the standard for future services. See Elkin-Koren, N., and Salzberger, M. E., *Law, Economics and Cyberspace: The Effects of Cyberspace on the Economic Analysis of Law*, Edward Elgar, 2004, p. 44.

⁴² *United States of America v. Microsoft Corporation* (364 US App DC 330) and also the European Commission Case COMP/C-3/37.792. Under US law, the question of market definition arises in US antitrust actions under section 2 of the Sherman Act and section 7 of the amended Clayton Act involving mergers.

relevant market.⁴³ With the Layered Policy Model (as adapted), defining the relevant market becomes easier to determine. The main question with the Layered Policy Model (as adapted) is to determine the *component parts* of a service and then allocate those component parts to a particular layer.⁴⁴ Once that is achieved, close substitutes to the component parts for that layer can then be found, and the relevant market for component parts for that layer defined. In this way, we can create very complex IP-based services involving multiple component parts, but still come to a determination of actual market power that is both very accurate and relevant in defining the actual access bottleneck.

5.3.2 Market Share

In assessing SMP, once the relevant market has been defined,⁴⁵ the next step is to measure the ISPs actual *market share* in the relevant market for component parts. Market share will often change. It is important to note that in assessing SMP, NRAs will look at whether a given market is or will become effectively competitive within the lifetime of the market review.⁴⁶ According to European Commission guidelines, market shares are often used as a *proxy* for market power, although a high market share alone does not necessarily establish a position of dominance,⁴⁷ as a dominant position can arise from other factors, such as an absence of potential competition, barriers to expansion, and the overall size of the undertaking.⁴⁸ In the context of IP networks, as regards the methods for measuring market size and market share, both *volume* sales of the relevant component part and *value* sales could be used.⁴⁹

⁴³ Elkin-Koren and Salzberger, *supra* note 41, p. 44 (citing the case of Sun Microsystems Inc, 333 F 3d 517, p. 532.)

⁴⁴ With modern systems of cost accounting currently being used in the telecommunications sector, cost accountants are already able to split a service into its component parts, pricing each part accordingly for the purposes of interconnection, and for the purposes of determining joint, marginal and total costs for a particular service.

⁴⁵ A full analysis would also include assessing the relevant barriers to entry together with measuring any potential competition in the relevant market.

⁴⁶ See Section 4.2 *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee of the Regions, on market reviews under the EU Regulatory Framework consolidating the internal market for electronic communications*, COM(2006) 28 final, February 2006, p. 5.

⁴⁷ Commission, 'Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services', 2002/C 165/03, 11.7.2002, para. 75.

⁴⁸ *Ibid.*, para. 78.

⁴⁹ Generally, value sales are used for differentiated and/or branded products and volume sales for bulk sales. Much will depend on the *commoditisation* of specific TCP/IP services. See para. 76, *ibid.*

The criteria to be used to measure the market share of the ISP will depend on the characteristics of the relevant market for that component part. Under the EC's New Framework, for example, the National Regulatory Authority (NRA) will need to decide which criteria to apply in measuring market presence. For instance, component part revenues or the numbers of component parts sold in a particular layer are possible criteria. As mentioned, this will depend on the layer involved. For example at the Transport Layer, the revenues accrued for each component part may be the appropriate measurement because the use of revenues (rather than the volume of component parts sold) takes account of the fact that different transport technologies (ADSL, cable, satellite etc.) are priced differently and provides a measure of market presence that reflects both the number of customers and network coverage.⁵⁰

Collective dominance/interdependent markets

A further issue to consider, when considering IP networks, is whether *collective* dominance is relevant, particularly with network externalities,⁵¹ and the evolution of vertically integrated markets in the communications sector.⁵² Annex II of the EC's Framework Directive sets out a number of criteria to ascertain collective dominance including low elasticity of demand, similar market shares and similar cost structures amongst others.⁵³ Furthermore, in the case of *Irish Sugar*, the Court of First Instance also considered collective dominance to be either joint (collective) dominance between competitors or undertakings in a vertical relationship.⁵⁴ Collective dominance and the concept of secondary/interdependent markets are likely to increasingly feature in cases involving packet-switched (IP) services. As regards secondary markets, the NRA will need to look carefully both upstream and downstream from the access market itself, and the (relative) dependence of retail services on wholesale access/transmission services. The Framework Directive at Article 14(3) makes a specific reference to the leveraging of market power between two closely related markets:

Where an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where

⁵⁰ Supra note 47, paras 76–7.

⁵¹ Ibid, note 41.

⁵² See De Streel, A., 'The New Concept of Significant Market Power in Electronic Communications: the Hybridisation of the Sectoral Regulation by Competition Law', *European Competition Law Review* 24(10) (2003), 540 for a further discussion of the concept of collective dominance.

⁵³ Directive 2002/21/EC on a Common Regulatory Framework for electronic communications networks and services, March 2002.

⁵⁴ Case T-228/97, *Irish Sugar plc v. Commission* [1999] 5 CMLR 1300.

the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking.

Under current definitions for relevant product/geographic markets in internet cases (discussed above), whether this provision will be able to catch potential dominant operators supplying complex TCP/IP services remains to be seen. The power of the Layering Theory, however, is that it addresses SMP within an IP network context, at the appropriate layer, and so enables effective competition within that layer. It offers a solution for the future regulation of complex IP networks. It has no relevance to conventional services offered over circuit-switched networks, but helps define the relevant market for the supply of services running over complex TCP/IP networks by examining the component parts of a service in any one layer. In the next section, we can see more clearly the relationship between the service S and its constituent component parts through the use of the Layering Theory and its simple (symbolic) equations. With these in mind it then becomes possible to set out a new definition for the interpretation of SMP, and from this definition, new interpretations for an electronic communications network and service.

5.4 THE LAYERING THEORY AND SMP REINTERPRETED

Following the Layered Policy Model, we can assume that any one electronic communication service $S(x)$ is then a function $[f(L)]$ of its component parts:

$$S(x) = N_t f(L)$$

where x describes the particular service from an infinite number of services ($x = 1$ to ∞), and where N_t is the number of times service $S(x)$ is provided over a period of time t .

If Sicker's model (for example) is adopted as the appropriate Layered Policy Model,⁵⁵ then $f(L)$ can be further defined as:

$$f(L) = A(x) + T(x) + App(x) + C(x)$$

where $A(x)$ describes the component part of $S(x)$ that operates at the access layer, $T(x)$ the component part operating at the transport layer, $App(x)$ the

⁵⁵ Alternative models could include Werbach's or Fransman's as discussed above.

component part operating at the application layer, and $C(x)$ the component part operating at the content layer. It may well be that a service has only one component part, or several component parts operating simultaneously at different layers.

An undertaking's *total* service output (for services ranging from service number 1 to service number ∞) over a period of time t can then be defined as:

$$S = \sum_{x=1}^{x=\infty} Sx$$

And so in applying the SSNIP test at each layer, we then ask whether a hypothetical monopolist ISP would find it profitable to impose a 5–10% price increase to the relevant component part. The main issue for the ISP is whether selling a smaller quantity of the component part at a higher price would be more profitable than selling a larger quantity at a lower price. This in turn will depend on how sensitive demand is to changes in price (the 'elasticity of demand'⁵⁶). The author contends that with modern pricing methodologies currently available for packet-switched networks, data are now becoming available for national regulatory authorities (or competition authorities operating under the principle of concurrency) in the advanced developed countries to calculate the elasticity of demand for relevant component parts for IP-based networks for each of the layers of the Layered Policy Model (as adapted).

Following these equations, the author argues that (and depending on the

⁵⁶ The critical elasticity of demand (e) is the value of elasticity of demand necessary to leave profits unchanged following a price increase (t), and is calculated using the formula:

$$e = \frac{1}{(m + t)}$$

where m is the price cost margin (defined as the gap between the price of the component part and its marginal cost). It should also be noted at this stage that in fast-changing IP-based technology network markets, there would also be a need to use 'competitive' rather than 'prevailing' prices for component parts to avoid the 'Cellophane Trap'. The Cellophane Trap relates to the US case of *United States v. El du Pont de Nemours & Co* 118 F Supp 41 (D Del 1953) aff'd 351 US 377 (US Sup Ct 1956), where a dominant undertaking has already been able to increase prices to a monopolistic level, effectively creating a situation where those prices are artificially high. Any use of these prices by the SSNIP test might then yield erroneous results. See Rodger and MacCulloch, *supra* note 24, pp. 86–7 for a more complete analysis of the Cellophane Trap.

accuracy of allocating the component parts of any one service to its appropriate layer) it should be possible to measure SMP both at the level of the relevant *Layer* and at the level of the *service*. Therefore, if we were now to adopt the European Commission's model for SMP,⁵⁷ and adapt it to take account of the Layered Policy Model, SMP could now be *interpreted* as:

An undertaking shall be deemed to have SMP if either individually or jointly with others, it enjoys a position equivalent to dominance **for the relevant component part in a particular layer (as set out in Schedule I) in the undertaking's relevant geographic market**, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.

Schedule I would list the Layered Policy Model as shown in Figure 5.1 above. In a similar way, new definitions can be found for other main headings. These definitions include:

- *Electronic Communications Networks* means 'transmission systems, and where applicable, switching or routing equipment and other resources which permit the conveyance of signals over any of the layers as defined in Schedule I irrespective of the type of information conveyed'.
- *Electronic Communications Service* means 'a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, and whose component part(s) fall into any of the layers as defined in Schedule I, but excluding services providing, or exercising editorial control over, content transmitted using electronic communications networks and services'.
- *Component Part* means 'a part of an Electronic Communications Service defined as either hardware or software and which falls into one of the layers as defined in Schedule 1. An Electronic Communications Service may consist of one or several component parts.'

With these definitions in hand, it then becomes possible to conceive of a layering theory that would apply to modern IP-based networks. It is important to stress that the author is not suggesting a new definition for SMP, but instead is suggesting a new way of *interpreting* SMP specifically for the communications sector. The Layering Theory would act simply as a form of guidance for regulators when seeking to define relevant product markets for complex digital

⁵⁷ One advantage of doing this is that the Commission has developed a substantial body of jurisprudence on dominance over several decades.

applications and networks. The Commission has already issued a Recommendation on relevant products and markets for the electronic communications sector,⁵⁸ which is intended to guide NRAs in their approach to defining markets. In its Recommendation, the Commission sets out the ‘three criteria’ test in helping Member States define the product and service markets to review:

- (i) the presence of high and non-transitory barriers to entry;
- (ii) the absence of dynamic market conditions tending towards effective competition;
- (iii) the insufficiency of competition law alone to address adequately any related market failure.

The original (2003) Recommendation sets out the test in Recitals 9 to 16 of the Recommendation. The revised (draft) Recommendation 2006 now moves the test into the main body of the Recommendation at Article 2. The revised Recommendation will still serve as guidance and although NRAs must regard it with the utmost importance, NRAs can deviate from the Recommendation subject to the notification procedure set out in Article 7 Framework Directive.⁵⁹

The author has used the European Commission’s approach, as set out in its New Framework for regulating electronic communications networks and services, in adapting the Layered Policy Model. This is because the flexibility of the Commission’s approach (the author contends) makes it highly suitable as a foundation for regulating TCP/IP-based networks. Furthermore, because of the rapid change and proliferation of the applications that will run over such networks (multi-application networks), the New Framework will in any case at some future stage need to be modified to allow for a more accurate interpretation of dominance (significant market power). To some extent, IP traffic already exceeds conventional voice traffic in terms of volume, and most of the

⁵⁸ Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex-ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services C(2003)497, February 2003. The Commission has recently issued a public consultation on a revised version of this Recommendation {SEC(2006) 837, 2nd edition June 2006} which is due to close in October 2006. The need for revision is in line with Article 15(1) *Framework Directive* (OJ L108, 24.4.2002), which requires that the Commission regularly reviews the Recommendation in line with changing products and services, and corresponding changes in demand and supply side substitution.

⁵⁹ See Draft Recommendation annexed to SEC (2006) 837, 28 June 2006, pp. 48–54.

developed world will also soon be moving away from the use of IPv4 to IPv6, which will allow for a greater number of available IP addresses and enhanced service functionality. Further change is coming. For example, in Europe there is increased diversity with the accession of ten new Member States to the European Union. As their telecommunication incumbents roll out Next Generation Networks based on IP in network cores, national circumstances will diverge and the NRAs in these countries may well have to adopt market definitions different to that envisaged in even the (planned) revised Commission Recommendation on relevant product and service markets.⁶⁰ With both products and services continuing to rapidly change and becoming more interdependent and complex, there is a certain inevitability that the Commission's guidance to NRAs on future markets to review will result in a series of revised 'Recommendations' in time to come. Although the European Commission has planned for this in its cycle of reviews envisaged under Article 15(2) Framework Directive, the author argues that the Layering Theory might provide the basis for *one* overarching framework for defining new product and service markets in the electronic communications sector. In the next section, the author shows how this framework might apply to increase effective competition in electronic communication markets at the multilateral level.

5.4.1 Applying the Layering Theory at the Multilateral Level

With the Layering Theory incorporated into the definitions given above, it then becomes possible to conceive of an amended version of the existing Reference Paper (reviewed in Chapter 3) that could apply to modern IP cross-border networks. The author has outlined the draft of such a version in *Annex I* to the book. This draft follows the format of the existing Reference Paper to the WTO's BTA, but with crucial modifications, for example adding a new definition for 'major supplier' and moving away from an essential facilities-type doctrine, inserting instead definitions for an 'electronic communications network operator' and 'electronic communication network service provider', and also new provisions for interconnection and access. The author has used the European Commission's approach, as set out in its New Regulatory Framework for regulating converged networks, in revising the Reference Paper. It is interesting to note that the original deliberations of the Negotiating Group on Basic Telecommunications drew heavily on previous EC and US policy in telecommunications, which is why the current RP makes references

⁶⁰ See Section 4.1, *Commission Staff Working Document: Public Consultation on a Draft Commission Recommendation on relevant product and service markets within the electronic communications sector*, SEC(2006) 837, 28 June 2006, p. 18.

to the concept of an essential facilities doctrine for example. The interconnection and anti-competitive provisions of the RP discussed in Chapter 3 are good examples of EU/US telecommunications practice. DCs and LDCs might therefore be naturally hostile to the adoption of a revised RP that also draws on EU/US jurisprudence, but the author contends that there are numerous advantages in DCs and LDCs taking this approach. These advantages are more fully discussed in Chapter 7.

The author contends that the flexibility of the Commission's approach in its new regulatory framework makes it highly suitable as the basis for a new Layered Approach to regulating IP-based networks, which are changing rapidly. The aim of the revised Reference Paper, set out in Annex I, is to address this new world of packet-switched technology. IP traffic already exceeds conventional voice traffic in terms of volume.⁶¹ As mentioned above, most of the developed world will also soon be moving away from the use of IPv4 to IPv6, which will allow for a greater number of available IP addresses and enhanced service functionality. At some point in the future, if WTO law is to keep pace with changing technology, the Reference Paper (RP) will also have to change. In this chapter we have seen the Layering Theory as it might apply at both a national and regional (EU) level. At Annex I, we can see how WTO law might be modified in the form of a revised RP. As mentioned in Chapter 1 (Introduction), the procedure by which a revised RP might be introduced into WTO law is beyond the scope of this book. If we consider, however, how the RP came into being, it could be argued that a very similar plurilateral negotiating process might be used to revise the RP in line with modern technology, and that a revised RP could also take the form of GATS Additional Commitment in future WTO rounds. Alternatively, a revised RP might be elevated in status, taking on the form of an Annex, if agreed by the majority of the WTO membership, similar in status to the Annex on Telecommunications, currently a mandatory part of the GATS. This latter approach is unlikely, however, given the need for consent by the majority of the WTO membership. Also current adoption of the RP by DCs and LDCs has been relatively mixed, and future adoption of an amended RP that would apply specifically to internet networks is likely to be met with scepticism, unless DCs and LDCs can see the direct commercial advantages in doing so. The current position and how the Layering Theory might affect developing

⁶¹ Voice traffic grows at roughly the rate of gross domestic product (GDP), which in good years means a 10–12% growth rate. Data, on the other hand, have been growing at an annual percentage rate in the triple digits since the early 1990s. At the same time, the cost of transporting a megabyte has declined. See Insight Research Corporation report: 'IP Telephony v. Circuit-Switching' at <http://www.insight-corp.com/reports/iptele.asp>, accessed November 2004.

countries is discussed more fully in Chapter 7. The Layering Theory very much applies to the regulation of both electronic networks and services in terms of ensuring effective competition to uphold principles of non-discrimination, any-to-any connectivity, interconnection and equal access, the fundamental principles of good regulation, which were discussed in Chapter 3. The Layering Theory is not so much concerned with content, that is, the electronic content that flows over the infrastructure. The theory is linked to content only as far as determining the relevant layer that the content falls into (more likely the application or content layer) for the purpose of determining SMP in that layer, and whether effective competition exists. The Layering Theory is an example of IEL and a combined sector-specific/competition law approach.

In the next chapter, Chapter 6, we discuss another very important aspect of IEL that will directly impact on the ability of DCs and LDCs for example to *export* electronic goods and/or services (electronic intangibles) into OECD markets. This aspect of IEL is much more immediately concerned with trade law (as opposed to competition and telecommunications law), with the import and export of goods/services and with issues of market access and non-discrimination as prescribed by WTO law. This other aspect of IEL that we are concerned with is the *classification* of electronic intangibles, both existing and future, at the level of the WTO.

6. The classification of electronic intangibles in the WTO

6.1 INTRODUCTION

The last chapter focused on how regulating effectively for SMP or dominance through use of the Layering Theory as regards advanced digital networks could lead to increased access possibilities for Other Licensed Operators (OLOs) that require access to the dominant operator's delivery network so as to provide competitive electronic network and services in the dominant operator's home market. Such a provision could also lead to more transparent access for third country operators, for example, from DCs and LDCs needing to interconnect with the dominant operator's network in the target country so as to deliver advanced electronic services from remote locations (cross-border services or Mode 1 services and consumption abroad or Mode 2 services under the WTO GATS). This is discussed in more detail in Chapter 7. The previous chapters have focused on the delivery mechanism or the infrastructure required in order to convey such services. However, this chapter now looks at the classification issue of electronic intangibles as they cross the virtual border. The classification of telecommunication network and service offerings has already been examined in Chapters 3 and 4. However, the classification of the *electronic intangibles*¹ that are to pass by way of these telecommunications networks and services still remains unresolved. For example, for physical goods passing through the customs point at a border crossing or at a shipping port, a tariff may be levied as an import tax together with any other customs duties applicable under the GATT. Similarly, for the cross-border delivery of a service, such as architectural or financial services, various local measures might apply to the regulation of these services in the target (importing) state. Even if the trade in electronic intangibles should be classed under GATS,

¹ A generic term, sometimes referred to as e-products or digital goods and services, ranging from MP3 files, pay-per-view/video-on-demand movies to customized software in sectors as diverse as audiovisual to health and education. Such products, often a digital combination of binary code, are referred to in this chapter as 'electronic intangibles'.

which mode of the GATS should apply to such trade: Mode 1 or Mode 2 GATS? Classification under Mode 1 would mean that the buyer's jurisdiction will apply because the supplier is conducting business in the buyer's jurisdiction whereas under Mode 2, the supplier's jurisdiction will apply. For electronic intangibles the relevant applicable trade rules will depend on how such intangibles are classed under WTO law. This is a contentious issue and at the time of writing, the WTO is deliberating on resolving this legal issue that has divided its members for the past five years – how to resolve the issue of classification of electronic intangibles? The recent Dispute Settlement Body case *United States – Measures affecting the cross-border supply of gambling and betting services* ('*US-Gambling*' discussed below) has gone some way towards looking at the classification issue, particularly in the context of like services, but the overall issue of classification still remains to be agreed.

In the recent past we have seen significant determinations by WTO Panels and the Appellate Body, and requests for Panels on similarly diverse products from apples,² to genetically modified crops³ to steel.⁴ But the issue of electronic intangibles, 'content rich' products that can be delivered directly to consumers by way of the internet, is likely to become one of the most eagerly contested issues in the WTO as trade in electronic commerce continues to escalate. This chapter explores the issue of classification, whether as a good or as a service,⁵ the different architectures of the GATT⁶ and GATS⁷ Agreements that will influence the process, and the almost diametrically opposed views of the European Communities and the United States on classification which have to some extent polarised opinion within the WTO. Finally, the chapter looks at the *US-Gambling* case and its significance to the trade in electronic intangibles.

6.2 WHY BE CONCERNED WITH CLASSIFICATION?

Given the significance of the trade in electronic intangibles, the differing underlying political intentions of some of the more powerful members of the

² *Japan – Measures affecting the importation of apples* (Case WT/DS245/AB/R), WTO, November 2003.

³ *European Communities – Measures affecting the approval and marketing of biotech products* (Case WT/DS291/23), WTO, August 2003.

⁴ *United States – Definitive safeguard measures on imports of certain steel products* (WT/DS251/AB/R-WT/DS259/AB/R), WTO, November 2003.

⁵ Or even an Intellectual Property Right under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).

⁶ General Agreement on Tariffs and Trade 1994 (incorporating GATT 1947).

⁷ General Agreement on Trade in Services (Annex 1(B) Marrakesh Agreement Establishing the World Trade Organisation).

WTO have made the issue of classification very contentious. This issue is one of the cross-cutting issues (discussed in the various WTO councils) that the General Council itself has had to consider. To begin to understand why discussions on classification have been so contentious, both within the subsidiary trade councils and at the WTO's General Council, we first need to understand the political motivations among the lead actors in this area, namely the United States, which prefers a GATT-based (goods) classification for electronic intangibles, and the European Communities, which prefer a GATS-based (services) classification.

One important political consideration is that, under current WTO rules, a classification for electronic intangibles under the GATS will allow countries to apply *content restrictions* based on rules of origin (a concept generally reserved for the GATT). The source of all content restrictions is directly related to the issue of protection of culture. This is an area of significant interest to the European Communities, particularly Member States such as France and Germany. One example of such protection at work is the inclusion of audiovisual services under the GATS, which allows for a variety of protections under Articles XVI (market access), XVII (national treatment) and XIV (general exceptions). US films have a dominant share of the market in Europe, and US 'industrial cinema' a dominant share of the world market. As Carty comments, citing various sources:

It has been argued that language has always been about power first, culture and learning second. Robert McCrum says in his Observer article that blue jeans and Hollywood played their part in the dominance of the English language, but it was Cruise missiles and Stealth bombers that became crucial to its success. Eighty percent of home pages on the web are in English compared to 4.5 per cent in German and 3.1 percent in Japanese.⁸

Chapter 7 of this book (Developing Countries and Telecommunications) discusses the underlying internet connections concerning DCs and LDCs and the dominance of US backbone operators in international connectivity.

Currently, a GATS listing allows restrictions on non-EU content being transmitted within the EU by way of national commitment restrictions in the European Communities Schedule of Specific Commitments (both 1994 and 1997).⁹ A GATS listing for electronic intangibles would therefore allow a similar range of protections in related 'content rich' sectors, such as education,

⁸ Carty, A., 'Meta-Concept of International Economic Law', in *Perspectives in International Economic Law* (ed. Asif Qureshi), Kluwer Law International, 2002, p. 68.

⁹ In this example the relevant measure would be Council Directive 89/552/EEC (as amended by Council Directive 97/36/EC). Article 4 of the Directive requires that EU broadcasters reserve a majority of their transmission time for European works.

health, advertising, medical, legal, insurance etc., depending on the level of specific commitments inscribed by the European Communities in these fields. Furthermore, given the European Union's powers to negotiate future trade rounds under any new potential draft Constitution for Europe,¹⁰ inconsistencies between internal policy approaches to classification of electronic intangibles with EC external policy will create unwanted difficulties for the Union in the years ahead. A GATS classification could also lead to higher rates of tax in the form of VAT (value added tax) being imposed on imports of electronic intangibles.¹¹ Some have argued that imposing such a tax could lead to discrimination between third country imports and EU suppliers of electronic services through the form of discriminatory taxes.¹² As the United States is seen as the leading exporter of electronic intangibles in the world, the imposition of such a tax could be seen as an attempt to curtail the US dominant position in e-commerce trade. The EU has been careful to stress, however, that such taxes are non-discriminatory, applying to European Community service suppliers, as well as third country service suppliers.¹³ Other problems surrounding the classification issue are:

- *Market access*: There is a problem with classifying e-products under the GATT, as most market access commitments that have been made in the e-commerce sector (telecoms, audio visual, computer, express delivery services etc.), have been made under the GATS;
- *Technological neutrality*: Some electronic intangibles are more like services than goods, for example video on demand, customised MP3 collections etc., and vice-versa (pay-per-view). If both goods and services can be delivered on-line, there will be constant and thorny questions regarding whether e-commerce activities (and which electronic intangibles) are subject to the GATT and which are subject to the GATS;

¹⁰ Under direction from the European Council of Ministers: See Chapter VI, International Agreements of the (then) draft Constitution for Europe 2003/C169/01 (July 2003).

¹¹ For example, the European Commission already levies VAT on electronic transmissions, originating both inside and outside the European Union under the Commission's sixth VAT directive (as amended).

¹² See, for example, the argument by Baker, S., Lichtenbaum, P., Shenk, M., and Yeo, M., 'E-products and the WTO', *International Law*, 35(5), 2001.

¹³ The European Communities have also argued in submissions to the General Council that in some cases, EU suppliers have for a number of years faced discrimination in favour of suppliers from outside the EU and that the (VAT) sales tax would remedy the situation: 'sales taxes were the bulk of the [European Communities] fiscal revenues, and foregoing them on e-commerce could mean a substantial loss of revenue' [WT/GC/W/492, WTO, April 2003, p. 4].

- *Customs duties* are the significant national measures for trade in goods. Worldwide, national customs systems are designed for trade in goods. Given the nature of distribution over the internet, it may be nearly impossible to reliably enforce customs duties on electronic intangibles, although the technology is now available for putting in place micro-payment systems for electronic deliverables, spearheaded by the music and film industries' use of digital rights management technologies.¹⁴ However, for many developing nations (and some developed), the cost of introducing such systems, or requiring their respective Small and Medium Sized Enterprise (SME) sectors to do so through domestic regulation, could be prohibitive even though anti-circumvention measures are already been introduced in law through TRIPS-plus provisions as found in the WIPO internet treaties, some of the provisions of which have already been incorporated into selected US bilateral and free trade agreements.¹⁵
- *Classification*: As mentioned in Chapter 3, the GATS has no compulsory or universally agreed classification system for services. Members usually follow the nomenclature developed for GATS purposes (GNS/W/120), which in many sectors is based on the provisional Central Products Classification (CPC) of the UN.¹⁶ If electronic intangibles are determined not to fall under either the GATT or the GATS, then new rules will be required and the problem will be to determine the extent of these rules, or whether existing ones can be reformed, extended or interpreted in ways that would mean the law keeping step with the technology.

This chapter explores these issues in detail, examining (a) the implications of the choices to be made in legal terms focusing on the structural differences between the GATT and GATS; (b) the policy considerations involved in a GATT/GATS classification for electronic intangibles; and (c) the differing positions of the European Communities and the United States.

¹⁴ <http://www.pico-pay.com/download/musicpaper.pdf>, accessed 20/11/03.

¹⁵ See Chapter 9.

¹⁶ CPC was not used in a number of sectors including financial, telecommunications, air transport and maritime transport. CPC descriptions are usually technologically neutral, focusing on the end-use of the service concerned rather than the means or medium of delivery.

6.3 STRUCTURAL DIFFERENCES BETWEEN THE GATT AND THE GATS

At the second session of the Ministerial Conference, a declaration on global electronic commerce was adopted in Geneva on 20 May 1998.¹⁷ At that conference, ministers recognised the increased opportunities from global electronic commerce trade, and directed the WTO General Council to establish a comprehensive work programme to address trade-related issues relating to electronic commerce, specifically looking also to take account of the developmental needs of developing countries, including economic financial and legal needs. It was also agreed that Member States of the WTO would continue their practice of not imposing customs duties on electronic transmissions. In September 1998, the General Council established a *work programme* on electronic commerce,¹⁸ directing each of its councils including the Council on Trade in Services, the Council Trade in Goods, Council for TRIPS, and the Committee for Trade and Development to look at specific issues under their respective jurisdictions on trade in e-commerce,¹⁹ with the General Council playing a central role in the work programme by keeping the work of the separate councils on e-commerce under continuous review through a standing item on its agenda. Furthermore, the General Council, given its overarching remit, would also examine any issues of a cross-cutting nature.²⁰

WTO members have held five dedicated discussions on cross-cutting issues relevant to electronic commerce, under the auspices of the General Council.²¹ One of the cross-cutting issues of concern is the classification of electronic intangibles. The issue before the WTO is whether the supply of digitised products which can be delivered either in a physical medium or by way of the internet should be classified under the GATS or GATT, or even the TRIPS. The type of products generally described as electronic intangibles consist of sound recordings, video games, audiovisual works, computer software and literary works, generally any form of content, protected by copyright or other forms of intellectual property rights that can be delivered in a

¹⁷ WT/MIN(98)/DEC/2, WTO, 1998.

¹⁸ WT/L/274, WTO, 1998.

¹⁹ Defined as 'the production, distribution, marketing, sale or delivery of goods and services by electronic means' (para. 1.3, WT/L/274, WTO, 1998).

²⁰ Ibid at para. 1.2.

²¹ Summaries of the discussions can be found in the following WTO documents: the first discussion in June 2001 in WT/GC/W/436; the second discussion in May 2002 in WT/GC/W/475; the third discussion in October 2002 in WT/GC/W/386; the fourth discussion in February 2003 in WT/GC/W/492, and the fifth in July 2003 in WT/GC/W/509.

physical form (CDs, CD-ROMs, DVDs, videos, books, newspapers and magazines), or as a form of an electronic transmission over the internet.

The trade in electronic intangibles already plays a significant part in international trade. Schuknecht and Perez-Esteve argue that:

as access to Internet becomes more available worldwide and bandwidth and phone lines expand, the cheaper prices of these products offered through the internet will cause a substitution effect between the physical and electronic trade of digitizable media products. The extent of this will depend on their degree of substitutability. In the long-term, one might expect, a stagnation, and even a decline, in the physical trade of these products.²²

Similarly, Mattoo and Schuknecht say that as products are transferred over the internet, prices will start to drop, resulting in a significant pick-up in this form of trade. They argue that above average growth rates in these areas are likely to continue in the future.²³

In looking at the classification issue, a certain category of electronic intangibles could be classified under either the GATS or the GATT. This includes a narrow range of media products that can be imported under both HS classifications (the classification system for trade in goods under the GATT), and/or downloaded over the internet (and hence classified as a service under the GATS system of classification W/120). The WTO has estimated such trade in intangibles to amount to approximately 1% of total merchandise trade and 1% of total duties collected worldwide.²⁴ This would not include the vast majority of services, all media/information products that *never did* cross borders in physical formats being clearly under the GATS (most media/entertainment forms that have traditionally been regarded as services: broadcast TV programming, radio programming), such trade amounting to approximately 99% of trading merchandise, and more than 99% of duties collected worldwide.²⁵

When looking at the issue of classification under either the GATT or the GATS, key differences in the architecture of the two different agreements must also be considered. Important differences include the treatment of (1) MFN; (2) obligations on national treatment; (3) prohibitions on quantitative restrictions; (4) customs duties on imports; and (5) modes of supply. Each is discussed in turn.

²² Schuknecht, L., and Perez-Esteve, R., *A quantitative assessment of electronic commerce*, WTO, 1999, p. 11.

²³ Mattoo, A., and Shuknecht, L., *Trade Policies for Electronic Commerce*, WTO, 2000, p. 5.

²⁴ See presentation by Lee Tuthill, trade in services division, WTO, 'WTO Implications of Classification Issues' at: http://www.wto.org/english/tratop_e/devel_e/sem05_e/presentation_tuthill.ppt, accessed 26/11/03.

²⁵ Ibid.

6.3.1 Most Favoured Nation

Under the GATT, all goods benefit from most favoured nation (MFN) treatment (benefits offered to the imports from one WTO member must be applied to imports from every other WTO Member).²⁶ Under the GATT, Members make individual commitments for the tariffs that will be applied to specific categories of goods, and these are applied on an MFN basis, but they can be qualified by a number of very narrow and specific exemptions.²⁷ For example, the GATT will allow Members in specific situations to take action against dumping at an unfairly low price and impose ‘countervailing’ duties to offset certain types of subsidies.²⁸ Emergency measures to protect domestic industries under the GATT are also temporarily allowed to limit imports from all sources (safeguard measures).²⁹ Each member will have its own schedule of ‘bound’ commitments, listing the maximum tariff the country will apply to each category of good. As regards e-commerce, the GATT also has the added advantage that WTO members have worked towards the gradual elimination of customs duties on a wide range of information technology products as part of the Information Technology Agreement (ITA).³⁰ The GATS, Article II (MFN treatment) is the equivalent of the GATT MFN provision. Article II:1 GATS states that:

With respect to any measure, covered by this agreement, each member shall accord immediately and unconditionally to services and service suppliers of any other member treatment no less than it accords to like services and service suppliers of any other country.

The standard of no less favourable treatment has already been interpreted to prohibit *de jure*,³¹ as well as *de facto*,³² discrimination between like services

²⁶ Article I, GATT 1994.

²⁷ Ibid, Article II.

²⁸ Ibid, Article VI, and Agreement on the Implementation of Article VI GATT 1994. See also Article XVI GATT 1994.

²⁹ Article XIX GATT 1994 as supplemented by the Agreement on Safeguards.

³⁰ *The Ministerial Declaration on Trade in Information Technology Products* (ITA) foresees duty-free market access for information technology products in certain markets. The ITA seeks to eliminate by certain deadlines (set out in the ITA) tariffs on a range of IT products essential to the infrastructure of e-commerce.

³¹ Measures that explicitly distinguish between foreign goods on the basis of their origin would constitute *de jure*, or ‘in law’ discrimination. See Matsushita, M., Schoenbaum, T., and Mavrordis, P., *The World Trade Organisation, Law, Practice and Policy*, Oxford University Press, 2003 for a more complete analysis.

³² Certain taxes and regulatory measures are neutral with respect to imports and domestic products but nevertheless still have a discriminatory effect: see *Japan – Taxes on Alcoholic Beverages* WT/058/AB/R, WT/0510/AB/R, WT/0511/AB/R, WTO, 1996.

and service supplies of Members of the WTO.³³ Likeness depends on the attributes of the product or supplier *per se* as opposed to the mechanism by which the product is delivered. Two ‘like’ services being treated in different ways (through the imposition of some form of customs duty or tax) because of their method of delivery would give rise to a complaint of inconsistent treatment under Article II GATS. A Member is however allowed to maintain a measure inconsistent with its general MFN treatment, if it has established an exception for this inconsistency (similar to the GATT).³⁴ In effect, under the GATS, a Member has a (one-time) opportunity to exclude a measure in its list of Article II MFN exemptions, which would perhaps give Members greater flexibility under the GATS than the GATT (one reason for example why the European Communities favour a GATS-based approach to classification as opposed to GATT³⁵).

Choi poses the very interesting question whether an MFN exemption can be applied to the internet environment.³⁶ He argues that MFN is possible, but not its exemption. He creates a new concept for MFN called Most Favoured *Network*, where, in the internet world, the internet accords treatment equivalent to MFN immediately and unconditionally to services and service suppliers, no less than it accords to like services and service suppliers of any other connected parties (most favoured network). Choi’s observation, however, is not always the case as quite often internet backbone operators and service providers will negotiate private interconnection agreements (so-called private peering agreements at private peering points) that will seek to differentiate the level and quality of service supply from interconnection found at public peering points (public Internet exchanges),³⁷ in effect discriminating between different service

³³ See paras 7.299–7.304 of the report of the panel on: ‘European Communities – regime for the importation, sale and distribution of bananas – complaint by the United States’ (WT/DS27/R/USA) and paras 231–4 of the report of the Appellate Body on ‘European Communities – regime for the importation, sale and distribution of bananas – complaint by the United States’ (WT/DS27/AB/R).

³⁴ Article II:2 GATS, and Annex on Article II Exemptions.

³⁵ This difference of approach between the US and the EU will be discussed later in Section 6.5 of this chapter. For now it is important to realise that a services classification would allow WTO Members greater flexibility to apply content restrictions under Article VI (Domestic Regulation) or take exemptions to national treatment under Article XVII. This has been the case with the EU in respect of television broadcasting for example (see restrictions on use of non-EU broadcasting content as set out in the EU *Television Without Standards Directive* 89/552/EEC as amended).

³⁶ Choi Dae-Won, ‘WTO and Electronic Commerce: The Case of the General Agreement on Trade in Services (GATS), 2000’, at <http://www.berlecon.de/services/en/iew2/papers/choi.pdf>, accessed September 2005.

³⁷ See chapter 5: ‘Interconnection, Access and Peering (Law and Precedent)’, by Kariyawasam, R., in *Telecommunications Law* (eds Waldon, I., and Angel, J.), Blackstone Press, 2001.

suppliers and operators. As such Choi's concept of MFN does not always play out. He does, however, raise a very good question as to how the GATS *exemptions* to MFN might apply in a digital world.³⁸ By contrast, the GATT is concerned with goods, and is more straightforward. If GATT MFN exemptions were to apply to electronic intangibles, the question would be whether some electronic intangibles should be subject to higher tariffs or customs duties than others. In considering this, however, another question immediately arises: how should electronic intangibles be *distinguished* one from the other?

In the electronic world, electronic intangibles are transmitted in the form of digital packets of information. Under the GATT, for the exemption to the MFN article to work, government authorities/industry would need to be able to use technology to not only *distinguish* between the different packets of information, but also to be able to *apply tariffs* to these different packets as they cross borders. The difficulty in achieving this from a technological perspective perhaps led to the moratorium on customs duties on electronic transmissions which lasted for several years from the time of the WTO e-commerce declaration in 1998, but which at the Cancun Ministerial in September 2003 failed to be positively reaffirmed, leaving a measure of uncertainty as to the moratorium's status.³⁹ However at the Sixth Ministerial Conference in Hong Kong in December 2005, the moratorium was again confirmed.⁴⁰ As far as the GATS is concerned, the GATS regulates *measures* that indirectly or directly restrict trade in services. Presumably therefore any exemptions taken under Article II GATS will need to apply to measures regulating the supply of electronic intangibles, perhaps for example in the imposition of sales taxes or value-added taxes on electronic intangibles.⁴¹

³⁸ Supra note 36 at p. 6.

³⁹ Fifth Ministerial Conference, Cancun Ministerial Declaration, WT/MIN(03)/20, September 2003.

⁴⁰ Sixth Ministerial, WT/MIN(05)/DEC, Hong Kong, December 2005, para. 46.

⁴¹ An example of a measure regulating the supply of internet services and falling under domestic regulation (Art VI GATS) would be the EC's E-Commerce Directive 2000/31/EC. Also included would be the modified Sixth Value-Added Tax EC Directive on value-added tax that seeks to impose a VAT tax on all imports of electronic goods from outside the European Community. In February 2002, the EU confirmed the VAT treatment of digital goods sold via the internet to EU consumers by non-EU companies. Under Directive 77/388/EEC (Sixth VAT Directive), as amended by Directive 2002/38/EC, non-EU businesses that make internet sales of digital products to consumers in the EU are now required to register for VAT in one EU Member State and record all sales within the EU in that Member State. The change was adopted to try to create a more even competitive environment between EU and non-EU (mainly United States) companies, as under the old framework only EU companies were required to charge VAT on digital internet sales, putting them at a disadvantage compared to their (mainly) US rivals.

6.3.2 National Treatment

The obligation for national treatment under the GATT is a *general* one as opposed to one that depends on the level of specific commitments undertaken and inscribed in Members' Schedules under the GATS. Article XVII GATS embodies the National Treatment principle whereby a Member must 'accord to services and service suppliers of any other Member, in respect of all measures affecting the supply of services, treatment no less favourable than that it accords to its own like services and service suppliers'. GATS national treatment commitments are negotiated levels of commitment that a Member may qualify or limit in some way for specific categories of service or modes of supply. This is because a national treatment obligation only arises under the GATS once a service has been *scheduled*. This is an important point: Under the GATS, a Member may wish to limit national treatment to protect domestic industries or to meet domestic policy objectives. So, for example, in terms of restricting content delivered by way of electronic intangibles, a GATS classification would obviously offer greater flexibility than a GATT classification. Members strong on the export of electronic intangibles (such as the United States) could view national treatment under the GATS as a potential way for other Members to limit national treatment obligations by introducing domestic legislation that could possibly restrict US imports based on content restrictions (for example, television broadcasting mentioned earlier or restrictions on electronic books or other content 'rich' products). In Europe for example, terrestrial television content is restricted by way of operation of the Television Without Frontiers Directive (TWFD),⁴² but consider now the position if similar content was (and is) available over the internet through webcasting or other streaming media. Clearly the provisions of the TWFD would be circumvented. Such circumvention could be restricted through a GATS-based classification for electronic media as opposed to a GATT. The standard for determining discriminatory treatment under Article XVII GATS (measuring the meaning of 'no less favourable' as set out in the wording of the Article) would be to determine whether the measure affects *conditions* of competition between foreign and national services and service suppliers in favour of the latter. The GATS allows members to inscribe national treatment measures discriminating against electronic supply by foreign service suppliers. However, for this to be accepted in future trade rounds would depend entirely on the negotiating positions of the parties concerned as clearly some trade partners, such as the United States, would find such restrictions difficult to accept (unless some form of *critical mass* was achieved in terms of overall sector commitments or

⁴² Directive 89/552/EEC (as amended).

clusters of services, as happened in negotiations in the telecommunications sector, for example).

The Global Business Dialogue on electronic commerce (GBDe 2002) argues that under the GATT, software, music, news publications, and all films and video delivered as physical goods should receive national treatment and be subject to lower tariffs, thereby enjoying favourable market access. However, if the same products were to be delivered electronically and classified under the GATS, the market access and national treatment commitments would be unclear or, in some cases, non-existent. They make the point that suppliers of digitalised content could 'face the prospect of years of trade negotiations just to obtain the market access and national treatment assurances under the GATS that they already enjoy under the GATT'.⁴³

6.3.3 Quantitative Restrictions

The GATT embodies a general prohibition on quantitative restrictions, whereas the GATS allows the use of quantitative restrictions in cases where governments wish to maintain limitations on market access (for example, the number of banking or telecommunication licenses to be awarded in the banking or telecoms sector⁴⁴). In addition, however, if electronic intangibles were classed as goods under the GATT, then the Agreement on Import Licensing Procedures (Licensing Agreement⁴⁵) will apply. The Licensing Agreement requires parties to publish information for traders making transparent the basis on which licences are granted.⁴⁶ The Agreement contains rules for the notification of the institution of import licensing procedures or changes.⁴⁷ It also offers guidance on the assessment of applications.⁴⁸ The outcome of falling under the Agreement would be that third country suppliers of electronic intangibles might have to obtain prior approval in the form of import licences from Members' authorities. This could lead to an indirect restriction on trade. The GATS also sets out allowable restrictions on licensing and other market access criteria under Article XVI GATS: six types of measures on market access can be inscribed in Members' national schedules, including:

⁴³ Page 2, Trade/WTO at <http://www.gbde.org/tradewto>, accessed September 2005.

⁴⁴ Article XVI GATS.

⁴⁵ Agreement on import licensing procedures, reprinted in WTO, *The Legal Texts: The results of the Uruguay Round of Multilateral Trade Negotiations*, 1999, p. 223.

⁴⁶ See Article 1(4)(a) Licensing Agreement.

⁴⁷ Ibid, Article 1(5).

⁴⁸ Ibid, Article 1(7).

- limitations on the number of service suppliers;
- limitations on the total value of service transactions or assets;
- limitations on the total number of service operations or the total quantity of service output;
- limitations on the number of persons that may be employed in a particular sector or by a particular supplier;
- measures that restrict or require supply of the service through special types of legal entity or joint venture; and
- percentage limitations on the participation of foreign capital or limitations on the total value of foreign investment.

WTO Members must indicate any of the limitations or measures in their Schedule of Commitments with respect to each mode of supply.⁴⁹ Choi (2001)⁵⁰ argues that in the internet sector, the feasibility of measuring each of these limitations is uncertain. Choi's point is well made, given the number of distribution channels available over the internet, made possible by way of a myriad range of peering and transit agreements (interconnection agreements) that can see packets of information directed through peering points (sometimes referred to as 'hops') globally. If every electronic supplier required a licence to operate there would soon be an exponential growth in the need for licensing, imposing a very heavy regulatory burden on Members' regulatory authorities, perhaps one reason why the European Commission decided to opt for a notification system in the EC's new regulatory framework for electronic networks and services rather than individual licensing.⁵¹

Classifying electronic intangibles as goods would also bring such products within the purview of other WTO goods agreements, including provisions on anti-dumping: The legal regime for anti-dumping in the GATT/WTO consists of Article VI GATT 1994, and the Antidumping Agreement (Agreement on Implementation of Article VI GATT 1994). Article VI GATT 1994 sets out the principles that WTO Members must follow when dealing with dumping issues. Dumping effectively aims to prevent a Member from exporting a product at an unduly low price to drive out competition in the importing country. Quite often dumping is associated with predatory pricing. Under Article VI, there are three requirements for dumping: (1) the export price of a product

⁴⁹ Article XVI:2 GATS.

⁵⁰ Choi, D., *WTO and Electronic Commerce: The Case of the General Agreement on Trade in Services (GATS)* at <http://www.berlecon.de/services/en/iew2/papers/choi.pdf>, accessed September 2005.

⁵¹ See the EC's package of new directives regulating the supply of electronic networks and services at http://europa.eu.int/information_society/topics/telcoms/regulatory/maindocs/index_en.htm#directives, accessed September 2005.

must be lower than the price (normal value) of that product in the domestic market of the exporting country; (2) exports of such products must call to or threaten to cause material injury to the domestic industry or materially retard the establishment of a domestic industry; and (3) there must be a causal relationship between dumping and the injury or retardation.⁵² In the context of electronic intangibles, a restriction on the dumping of MP3 files (for example) imposed by the WTO Member may also have an impact on internet sales.

Furthermore, if electronic intangibles were classed as goods, such products might also fall under the jurisdiction of the *Subsidies and Countervailing Measures Agreement* (Subsidies Agreement). Matsushita et al. defines a subsidy as ‘a positive externality that is a benefit that comes from outside a business or firm. In lay terms, it is a windfall.’⁵³ A subsidy under the Subsidies Agreement is defined at Article I:1 as having two discrete elements: (1) a financial contribution needs to be made by the government; and (2) there needs to be a benefit. Under Article 2, to fall foul of the Agreement, the subsidy must also be *specific*. The subsidy will be specific if: (1) the granting authority limits access to the subsidy to only a limited number of ‘certain enterprises’;⁵⁴ (2) there is predominant use of a subsidy programme by ‘certain enterprises’;⁵⁵ (3) disproportionate amounts of subsidy are granted to ‘certain enterprises’;⁵⁶ or (4) the manner in which granting authorities exercise discretion in favour of ‘certain enterprises’.⁵⁷ It is not difficult to see how such specificity could easily apply to a niche e-commerce industry.

Often national authorities or governments will help fledgling industries grow by providing various grants or tax credits or other forms of tax incentive to help with expansion of trade. Any government incentives (for example tax credits) that are given to firms to help with export of electronic intangibles products will therefore need to be carefully assessed for compliance with WTO law if electronic tangibles are classed as goods (consider for example the Doctrine of State Aid⁵⁸). Ogoti and Shah also argue that other quantitative

⁵² For a more complete analysis of the regulation of antidumping, see Matsushita et al. *supra* note 31.

⁵³ *Ibid.*, p. 260.

⁵⁴ Article 2.1(a) Subsidies Agreement.

⁵⁵ *Ibid.*, Article 2.1(c).

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*

⁵⁸ There may be issues of *State Aid* which will need to be examined, for example in Europe, under Community competition rules on State Aid found in Articles 87 and 88 EC Treaty and relevant case law specifically defining the meaning of aid in terms of its effect, for example preferential tax treatment (*Case 173/73 Commission v. Italy* [1974] ECR 709) and the application of the ‘market investor principle’ as set out in *Case C-39/94 Syndicat Français de l’Express International (SFEI) v. La Poste*

restrictions may apply, for example screen quotas that are currently levied on films under the GATT may also be extended to the Internet.⁵⁹ This for example may apply with pay-per-view or video on demand type products (although the latter, due to the customised nature of the product, may be classed as a service under the GATS rather than a product under the GATT).

6.3.4 Customs Duties

The GATT envisages the use of customs duties on imports where members have not bound their tariffs to zero, whereas the GATS has little to say about customs duties or taxes in general, except that any tax must be consistent with the national treatment commitments a Member schedules in its specific commitments. Article II GATT 1994 provides for schedules of concessions that contain the specific tariff commitments on tradable goods. Paragraph 1(b) has particular relevance to customs duties applicable to electronic intangibles:

The products described in Part 1 of the Schedule relating to any contracting party, which are the products of territories of other contracting parties, shall on their importation into the territory to which the Schedule relates, and subject to the terms, conditions or qualification set forth in that Schedule, be exempt from ordinary customs duties in excess of those set forth and provided for therein . . .

The subparagraph 1(b) effectively provides that customs duties shall not exceed those set out in the Member's Schedule. Therefore if the GATT were to apply to electronic intangibles, any applicable customs duties would be constrained by whatever duties appeared in the Member's Schedule. By contrast, under the GATS, customs duties are effectively border measures that would be more relevant to cross-border supply, whether under Mode 1 or Mode 2. It is very unusual to see customs duties applied to services.⁶⁰ As mentioned, WTO members had agreed a *moratorium* on the use of customs duties for electronic transmissions. The moratorium was still in place at the

[1996] ECR I-2547; Cases C-278–280/92 *Spain v. Commission* [1994] ECR I-4103. Furthermore, there may be issues of State subsidies at the multilateral level given that the WTO also has certain rules (Subsidy Rules under the *WTO Agreement on Subsidies and Countervailing Measures*) on States offering support to private industry. The analysis of State Aid/WTO subsidy rules is outside the scope of this chapter.

⁵⁹ Ogoti, A., and Shah, A., 'E-ntering the WTO Paradigm', at: http://www.nishithdesai.com/eco-times/archives/e-ntering_the_wto_paradigm.htm, 2000, p. 8, accessed September 2005.

⁶⁰ The WTO Secretariat lists only *one* case where customs duties have applied to services. This was in the context of ship repair services purchased abroad by the United States. See WTO document, S/C/W/68, 1998.

last meeting of the General Council of the WTO in 2003. The moratorium was again confirmed at the Sixth Ministerial WTO Conference in Hong Kong in 2005.⁶¹ This moratorium is not legally binding and it remains free for WTO members to agree to impose customs duties on electronic intangibles at some point in the future. However, any tax that increases the level of protection of an inscribed service would not be consistent with a Member's commitments. Under the GATS, if a Member has made national treatment commitments ruling out discriminatory taxes in a particular sector, then all discriminatory taxes (including customs duties) in that sector would be prohibited.⁶² In the sector where national treatment commitments have been taken, those commitments will apply to *all* measures affecting the supply of services in that specific sector, unlike GATT national treatment obligations which do not apply to border measures like tariffs and quotas. If, however, a Member has not made a national treatment commitment in a particular sector, that Member is free to put in place *discriminatory* internal taxes in that sector (which could have a similar effect to the imposition of customs duty in the same service sector).⁶³ Therefore if electronic intangibles were to be classed under the GATS, then the nature of national treatment commitments given in a Member's schedule would be crucial in determining the likelihood of any discriminatory internal taxes arising, which would create an uneven playing field for foreign and domestic suppliers of electronic intangibles. By contrast, the primary purpose of the GATT is to reduce or eliminate tariffs over a period of time through binding tariff concessions. Under the GATT, national treatment for internal taxes is obligatory; however, as discussed above, national treatment under the GATS for internal taxes is *negotiated*. In the short term, therefore, in terms of customs duties/internal taxes etc., the level of benefits that can be achieved by classifying electronic intangibles under the GATT would appear to be higher than under the GATS.

We should also ask whether tariffs in the form of customs duties are feasible for electronic transmissions under the GATS given that the technology is now available for discriminating between different types of electronic services by analysing the nature of the packets therein. Of course, putting in place such a system would be prohibitively costly, particularly for a number of developing countries already faced with future costs for making the eventual protocol transition from Internet Protocol 4 (IPv4) to Internet Protocol 6 (IPv6). The WTO Secretariat has noted that 'there is no reason in principle why customs

⁶¹ WT/MIN(05)/DEC, 22 December 2005, para. 46.

⁶² Article XVII GATS.

⁶³ *Ibid.*

duties should not be applied to services, whether supplied electronically or in any other way'.⁶⁴

When commenting on customs duties, Drake and Nicolaidis make the revealing observation that none of the countries that scheduled commitments in the telecommunications sector thought to schedule duties on telecommunication *transmissions*.⁶⁵ They argue whether, if applying a principle of technological neutrality, the same countries can now apply customs duties for internet transmissions. Alternatively, *tariffs* under the GATS might take the form of discriminatory internal taxes (as discussed above). As regards tax *revenue*, WTO members are entitled to non-discriminatory internal taxes under both the GATT and the GATS.⁶⁶ Although the European Communities did not inscribe duties on telecommunication transmissions, the EC *has* proceeded down the tax revenue route with adoption of amendments to its Sixth VAT directive.⁶⁷ The consolidated Sixth VAT Directive effectively requires all suppliers of electronic services to register for VAT purposes within the European Union.⁶⁸ It is also important to note that in some cases (often with electronic intangibles) WTO members have to apply both the GATS (to the supply of the service) and the GATT (to the *physical outcome* of the service). An example of this would be in the supply of architectural services where the GATS will apply to the provision of architectural services, but also where a customs duty will apply to the architectural design delivered physically under the GATT. Where there is

⁶⁴ Para. 34, S/C/W/68, 1998.

⁶⁵ *Supra* note 81.

⁶⁶ For example, the GATS Article XIV (General Exceptions) allows domestic measures aimed at ensuring the equitable or effective imposition or collection of direct taxes.

⁶⁷ In February 2002, the EU confirmed the VAT treatment of digital goods sold via the internet to EU consumers by non-EU companies. Under Directive 77/388/EEC (Sixth VAT Directive), as amended by Directive 2002/38/EC, non-EU businesses that make internet sales of digital products to consumers in the EU are now required to register for VAT in one EU Member State and record all sales within the EU in that Member State. The change was adopted to try to create a more even competitive environment between EU and non-EU (mainly United States) companies, as under the old framework, only EU companies were required to charge VAT on digital internet sales, putting them at a disadvantage compared to their (mainly) US rivals.

⁶⁸ The reason for this is that the European Communities have described that sales taxes constitute the bulk of their fiscal revenues and foregoing them on e-commerce could mean a substantial loss of revenue. See paragraph 2, 'Fiscal implications of e-commerce' in the fourth dedicated discussion on electronic commerce under the auspices of the General Council, 27 February 2003 (WTO document, WT/GC/W/492, April 2003). The European position on VAT as regards electronic transmission will be discussed in greater detail in Section 6.5 of this chapter when we look at the different positions of both the EU and the United States on classification of electronic intangibles.

a GATT/GATS overlap it will be important to ensure consistency between the national treatment commitments made under the GATS by a WTO member and the tariffs collected on the good delivered under the GATT, for example with CDs, DVD-ROMs and other electronic intangibles that can be delivered both physically and via the internet.

6.3.5 Modes of Supply

The GATT focuses on cross-border trade in goods. The GATS also covers cross-border trade (Mode 1⁶⁹), but additionally considers three other modes of supply: consumption abroad (Mode 2⁷⁰), commercial presence (Mode 3⁷¹), and movement of natural persons (Mode 4⁷²). In a report published by the WTO as a special study on e-commerce,⁷³ electronic commerce appears to have significant implications for expansion of trade in Modes 1 and 2.⁷⁴ The WTO's report also indicates that Member commitments for Mode 2 appear to be more comprehensive than Mode 1.⁷⁵ Often for e-commerce transactions it is difficult to distinguish between Mode 1 and Mode 2 types of service supply.⁷⁶ This often gives rise to difficulties in determining the *jurisdiction* for an electronic transaction. Clearly it is difficult to determine whether any of the categories of modes of supply has its regulatory equivalence in the internet environment. The WTO Secretariat comments that:

⁶⁹ The supply of a service from the territory of one member into the territory of any other Member: GATS Article I:2(a).

⁷⁰ The supply of service in the territory of one Member to the service consumer of any other Member: *ibid*, Art I:2(b).

⁷¹ The supply of a service by a service supplier of one Member through commercial presence in the territory of any other Member: *ibid*, Article I:2(c). The term 'commercial presence' is defined at Article XXVIII(d) GATS: *Commercial presence* means any type of business or professional establishment, including through (i) the constitution, acquisition or maintenance of a juridical person, or (ii) the creation or maintenance of a branch or a representative office, within the territory of a Member for the purpose of supplying a service.

⁷² The supply of a service by a service supplier of one Member, through presence of natural persons of a Member in the territory of any other Member: *ibid*, Article I:2(d).

⁷³ *Special Studies 2: Electronic Commerce and the role of the WTO*, WTO Secretariat, 1998.

⁷⁴ *Special Studies 2: Electronic Commerce and the role of the WTO*, WTO Secretariat, 1999, p. 52.

⁷⁵ *Ibid*.

⁷⁶ For example in the event that a consumer of Member State A buys over the internet a product from a site registered in Member State B, should the transaction be classed as Mode 1 (cross-border supply) or Mode 2 (consumption abroad)?

. . . the distinction between modes 1 and 2 therefore hinges upon whether the service is delivered within the territory of the Member from the territory of another Member or whether the service is delivered outside the territory of the Member.⁷⁷

The Council for Trade in Services has discussed a similar issue in the context of financial services:⁷⁸ There the Council suggests that in determining the appropriate mode for financial service transactions:

. . . if the supply of the financial service by a supplier abroad involves solicitation or active marketing of business on the part of this supplier within the territory of the consumer's home country, the supply of the service might be treated as Mode 1. In other words, Mode 2 could be confined to consumption abroad not accompanied by solicitation or active marketing activities on the part of the supplier.⁷⁹

The Council does note that in the absence of solicitation or direct marketing the problem of determining which mode applies still remains. Also under the *GATS Services Sectoral Classification List* (MTN.GNS./W/164), cross-border supply and consumption abroad are distinguished by whether or not the service is delivered in the territory of the Member or outside. In looking at this point, the WTO Secretariat comments that:

A large part of the problem here may be that the Scheduling Guide focuses on the wrong question. There is no operational need, in the administration of the GATS, to classify *transactions* according to the modes of supply, though it might be interesting to do so for statistical purposes. The real function of the modes is to categorize *commitments* in national schedules. The question of the mode under which a transaction takes place only becomes important if there is disagreement about the legitimacy of a measure taken by a Member affecting the transaction, in which case the measure would be judged against the Member's commitments.⁸⁰

The WTO Secretariat goes on to consider the relevance of the *domicile* of the parties to an electronic transaction (supplier and consumer) in determining which mode should apply:

The four modes should therefore be seen essentially as the framework within which commitments are made, and which defines the freedom of Members to take particular kinds of measures . . . In the context of electronic commerce, it means that in considering the consistency with national commitments of a measure affecting electronic supply, one would ask first on whom the measure impinged – the provider or the consumer – and judge its consistency in the light of commitments under mode 1 and mode 2.⁸¹

⁷⁷ Ibid.

⁷⁸ WTO, S/FIN/W/9, 1996.

⁷⁹ Ibid, at para. 14.

⁸⁰ See para. 8, WTO document S/C/W/68, 1998.

⁸¹ Ibid. The WTO Secretariat also points out that the determination of jurisdiction for a transaction could be important for reasons other than determining mode of

However, the Government of Australia in a later submission to the Council for Trade in Services disagrees with the Secretariat on this point:

Australia, however, considers that the question most relevant to ascertaining whether mode 1 or 2 commitments apply is to determine where the service was delivered; and not on whom the measure impinged (consumer or supplier) as suggested by the Secretariat paper . . . For both the cross-border supply and consumption abroad modes, the foreign service supplier is located outside of the territory of the Member receiving the service. For consumption abroad, however, the Scheduling Guidelines note that the service is delivered outside the territory of the Member. Australia would recommend starting from the position that delivery takes place where final consumption occurs. It would follow that final consumption occurs where the consumer is located. If consumption occurred *inside* the territory of the Member, this would be categorised under Mode 1; if it occurred *outside* the territory of the Member, it would fall under Mode 2.⁸²

Some commentators have argued for creating an entirely new mode (a fifth mode) of supply under the GATS specifically for electronic commerce transactions, or redrafting the wording of Mode 1 and Mode 2 definitions to distinguish more clearly between cross-border supply and consumption abroad in the context of electronic transactions.⁸³ Drake and Nicolaidis (2000) refer to listing *identical* commitments on both Modes 1 and 2. However, they argue that doing so would not necessarily solve the jurisdictional problems for e-commerce transactions mentioned above. They are right: identical commitments would also lead to confusion with market access and national treatment columns in the GATS schedules, which are confusing enough as they are. Drake and Nicolaidis also suggest amending Article I GATS by ‘specifying that mode 2 involves the physical presence of the person being serviced in another member’s territory’.⁸⁴ This would then mean that *all* electronic transactions would either fall under Mode 1, or Modes 3 and 4. As most e-commerce is conducted under Mode 1, unless there was also a change to the current wording of Mode 1, the definition would not necessarily be subtle

supply under the GATS, for example in determining the jurisdiction and governing law for the private contract (between buyer and seller), consumer protection and policing of illegal activities. However, it can be argued that determining mode of supply under the GATS will *de facto* also determine jurisdiction for the contract. For example, Drake and Nicolaidis (2000) argue that (pending exceptions), if a transaction is classified under Mode 1, the jurisdiction of the buyer (consumer) will apply; if a transaction is classified under Mode 2, the jurisdiction of the seller will apply.

⁸² Paras 2 and 3, S/C/W/108, WTO, 1999.

⁸³ See references to *Geza Feketekuty* in chapter 14: ‘Global Electronic Commerce and GATS: The Millennium Round and Beyond in GATS 2000’ by W. Drake and K. Nicolaidis in *New Directions in Services Trade Liberalisation* (eds Pierre Sauve and Robert M. Stern), Brookings Institution, 2000.

⁸⁴ *Ibid.*

enough to pick up the distinction between consumers who access servers overseas to ones who access servers within the Member territory where the consumer is resident.

The current GATS framework is inadequate for dealing with modes of supply and the related problem with jurisdiction. Often jurisdiction in e-commerce transactions is a matter for private international law,⁸⁵ as opposed to public international or international economic (WTO) law, negotiated by choice of parties of law and forum in contracts. The issue becomes more complex if law and forum is not stated and here treaties, such as the Brussels Regulation and Rome Convention, have their part to play. Perhaps the closest the GATS can come as a multilateral treaty to dealing with the issue of jurisdiction would be to leave it to member states to determine national regulatory measures applying to jurisdiction under Article VI GATS – domestic regulation – as opposed to indirect treatment under Article 1. Article VI:2(a) provides for the creation of judicial, arbitral or administrative tribunals or procedures which for example could deal with the issue of arbitration/on-line dispute resolution and remedies for administrative decisions (decisions of national regulatory authorities) dealing with trade in electronic services. Similarly, Article VI:3 could deal with the issue of notifications or authorisations required for the supply of electronic services in the Member's territory by third country suppliers, and Article VI:4 empowers the Council for Trade in Services with the powers to determine whether any qualification requirements and/or technical standards required for e-commerce satisfy the conditions set out in Article VI⁸⁶ (the effectiveness of these powers, however, can be questioned).

Whereas the GATT contains rules on safeguards, and domestic regulation, and subsidies and countervailing measures (discussed above), the GATS also has working parties discussing disciplines on domestic regulation, emergency safeguard mechanisms and government procurement (including subsidies). Given that the GATS is less than a decade old, most of these negotiations are still at an early stage, and it is not yet apparent how the classification argument over electronic intangibles might impact these different negotiations. What is

⁸⁵ See for example *Brussels Regulation* (Council Regulation 44/2001 (replacing the Brussels Convention)), *Lugano Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters*, *Rome Convention on the Law Applicable to Contractual Obligations*, and *Hague Conference on Private International Law's Draft Convention on Jurisdiction and the Enforcement of Foreign Judgements in Civil and Commercial Matters* (on-going).

⁸⁶ Article VI GATS lists requirements such as (a) objective and transparent criteria, (b) not more burdensome than necessary to meet service quality, (c) non-restrictive licensing procedures. Also, Article VII GATS deals with recognition and mutual recognition of Members' criteria for standards and certification of service suppliers.

sure, however, is that any uncertainty on classification is likely to impact the confidence of exporters of electronic content. In conclusion, there are a number of significant structural differences between the GATT and the GATS that will have an impact on the classification debate.

Finally, although much of the discussion above has focused on these structural differences, if WTO Members were to decide to classify electronic intangibles as trade in *intellectual property rights* (IPRs) under the TRIPS Agreement, the transmission of such IPRs by way of e-commerce will ignore the concept of border crossing and border enforcement of such rights. As such, there will be a need to consider royalties (TRIPS) as an alternative to either customs duties (GATT) or tax revenues (GATS), whether the transmission is a cross-border one or purely domestic. As to enforcement of IPRs, Article 41 of the TRIPS Agreement will apply, and enforcement will inevitably depend on the level of scope of digital rights management technologies in place, the subject of the World Intellectual Property Organisation's (WIPO's) 'Internet' Agreements rather than the TRIPS.⁸⁷

6.4 ESTABLISHING A LEGAL FRAMEWORK

So how then do we begin to conceive of a legal framework that can help trade negotiators in classifying electronic intangibles? There are three possible frameworks that can apply; Section 6.4.1 below discusses the legal rules for distinguishing between goods and services, Section 6.4.2 the principle of trade neutrality, and Section 6.4.3 the principle of technological neutrality. Another important principle to consider would be the principle of progressive trade liberalisation, which is covered in Section 6.4.4. It would perhaps be helpful at this stage to discuss some of these principles, and whether they can assist in formulating an effective legal framework for classifying electronic intangibles as goods, services, or as some form of hybrid or other category (such as intellectual property rights). Each principle is discussed in turn.

⁸⁷ The two WIPO Internet Treaties were adopted under the auspices of WIPO in 1996: the WIPO *Copyright Treaty* (WCT) and the WIPO *Performances and Phonograms Treaty* (WPPT). The text of these treaties can be accessed at WIPO's *Digital Agenda* at: <http://ecommerce.wipo.int/agenda/index.html>, accessed 26/11/03. The WCT and WPPT are self-standing treaties which build on the *Berne* and *Rome* Conventions, and the TRIPS Agreement, but in certain areas go further, for example in the area of enforcement of copyright, digital rights management, and anti-circumvention measures.

6.4.1 Legal/economic Rules for Distinguishing between Goods and Services

The economics literature is full of statements to the effect that goods are material, or tangible, whereas services are immaterial and intangible. Hill (1999) argues that:

Because (a service) is not an entity, it is not possible to establish ownership rights over a service, and hence to transfer ownership from one economic unit to another. In contrast to goods, therefore, services cannot be traded independently of their production and consumption.⁸⁸

Hill distinguishes between a good and a service in a number of ways. In particular, he argues that:

Goods are entities of economic value over which *ownership rights* can be established. If ownership rights can be established they can also be exchanged, so that goods must be tradable. Goods can be consumed or used long after they have been produced at locations which are removed from their place of production stopped. The separation of distribution and use from production is not feasible for services.⁸⁹

We see therefore that under Hill's analysis goods are material objects, but goods do not necessarily have to be material or tangible. He argues that intangible entities do exist and that they have all the economic characteristics of *goods*. These can be described as 'originals' created by authors, composers etc., which have no physical dimensions or spatial coordinates of their own and have to be recorded and stored on physical media, such as paper, films and disks. They can be transmitted electronically. Hill argues that the intangible is the archetypal immaterial good: 'It is a good because it is an entity over which ownership rights can be established, and which is of economic value to its owner'.⁹⁰ He further argues that when goods are produced, their production has two important characteristics not shared by services:

- The entire output from the process of goods production is owned by the producer and therefore is at the disposal of the producer;
- the use or disposal of the good by the producer is a separate activity from its production and takes place afterwards.

⁸⁸ Hill, P., 'Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output', *Canadian Journal of Economics*, 32(2), 1999, p. 442.

⁸⁹ Ibid, p. 447.

⁹⁰ Ibid, p. 440.

On the other hand, for services, two essential characteristics need to be noted:

- the production of services requires the agreement, cooperation and participation of the consuming unit(s); and
- services cannot exist independently of their consumers. In effect, there cannot be a producer without a consumer. A service needs to be provided to another economic unit.

Hill argues that because the service is not an entity, it is not possible to establish ownership rights over a service, and therefore not possible to transfer ownership from one economic unit to another. In contrast to goods, therefore, services cannot be traded independently of their production and consumption.

In conclusion, Hill argues that in describing services as intangible goods, an assumption is made that the product must be an entity of some kind, whereas a service typically consists of some kind of improvement to an existing entity. Ogoti and Shah (1999) go further than Hill in distinguishing intangibles as goods and/or services. They argue that in certain industries (for example in the software industry), further factors would need to be taken into account such as *mass production*, as opposed to the *customisation* of digital products and services in determining the classification issue: a higher quotient of customisation indicates services, whereas a lower quotient, goods. In their view, the issue is to develop a set of *characterisation factors* for electronic transmissions that will help to distinguish between goods and services.

Similarly Civilka argues that the distinction between goods and services is not definite, but rather a *sliding transition* exists where the considerations, purposes and character of each good and service have to be examined on a case-by-case basis to distinguish between them.⁹¹ The problem is not to distinguish between a physical delivery of an object, and a physical process of a service, the difficulty is to 'distinguish between the digital products as a group of products, digitally delivered and which may fall within the traditional classification of both services and goods'.⁹² He argues that the physical delivery has an aspect of a product that is a 'tangible' object, while the physical process of a service can be described as being an activity that takes place. For all electronic services there is a transmission of digits being sent to a computer, and these digits are physically delivered to a computer, constituting goods, whereas the aggregate of the digits constitutes a service.

Civilka goes on to argue (a point not considered by Hill), whether digital

⁹¹ Civilka, 'Digital Products: Goods or Services?' Mindaugas Civilka, Vilnius University Law Faculty, at: http://www.itc.tf.vu.lt/doc/mokslas/skaitmenines_pranesimas_angl.pdf, 1999, accessed September 2005.

⁹² Ibid, p. 3.

products and services, so-called intangibles, need not be classed either as goods or services, but as *intellectual property rights*. He argues that when users buy the right to use an electronic good or service, what they are actually buying are the rights to use the program, limited by licence: ‘Digital deliveries are neither services or goods but rather another type – *sui generis* type – of merchandise, represented by their connection to intellectual property rights and lack of connection to a physical element or service’.⁹³ Civilka argues that the transfer of intellectual property rights from the supplier to the user is framed in the licence agreement between supplier and user so that when the intellectual work is being sold along with the material medium, the ownership passes in respect of the material medium, rather than the author’s own work. What is involved therefore is the purchase of the tangible medium on the one hand, and delivery of the right to use the intellectual work as set out in the licence agreement on the other. In effect, the trade in electronic intangibles is simply a trade in intellectual property rights, and nothing else. The governments of Singapore and Indonesia have also considered the trade in electronic intangibles as being equivalent to trading in intellectual property rights.⁹⁴ Similarly, the Government of Australia, in a submission to the Council for Trade in Services, states that:

Most products or services delivered electronically consist of information. They remain information at the point of delivery to the consumer. Therefore, the value of such information in all cases consists solely of its intellectual property value, plus cost of distribution to the consumer.⁹⁵

In summary, it is useful to look at Hill’s arguments that the essential characteristics of goods are that they can be owned, and where they exist independently of their owners, can be traded. Services, by contrast, involve some desired change caused by the service provider to something owned by the consumer or to the state of the consumer herself:

- The delivery of a service requires a relationship between consumer and producer; under this analysis, digital goods and services that can be owned, such as music, video, books, constitute goods;
- however some digital goods and services, such as the ability to watch a video on demand (where the consumer chooses a video from an array,

⁹³ Ibid, p. 5.

⁹⁴ See WT/GC/W/247, WTO, 1999, p. 2.

⁹⁵ S/C/W/108, WTO, 1999, p. 6. By contrast, the European Commission in its Sixth VAT Directive (as amended) regards the transfer and assignment of intellectual property rights (copyright, patents, licences, trademarks), as the supply of *services*. See Article 9(2)(e) Directive 77/388/EEC (as amended).

which is then delivered by the supplier's server to the consumer) are services.

Hill's approach is primarily economic as opposed to legal in further considering a suitable legal framework for distinguishing between goods and services. From a legal perspective at a multilateral level we can also ask whether existing WTO jurisprudence can inform the debate. Perhaps the leading case on this point is the WTO Appellate Body Decision, *Canada – Certain Measures Concerning Periodicals (Canada Periodicals)*.⁹⁶ In this case, the Appellate Body found that while advertising and editorial content had 'service attributes', they formed a physical product in the periodical itself. In *Canada Periodicals*, the Canadian government's use of a measure to restrict imports of split-run periodicals under the GATS was rebuked by the Appellate Body on the basis that GATT applied to the imports and not the GATS. The Canadian measure effectively restricted Canadian advertisers buying cheap (dumped) advertising space in magazines with little Canadian editorial content, restricting Canadian advertisers to buying space in the Canadian magazines market. Canada argued that advertising was a service that fell under the GATS (at the time, Canada had not scheduled any liberalisation commitments in this sector and was therefore free to discriminate between Canadian and non-Canadian magazine imports). However, the Appellate Body had to distinguish between the concept of a good and service which was made more complicated by the fact that neither the GATS nor the GATT explicitly defines the terms 'services' or 'goods'. The Appellate Body argued that Canada's measure had the effect of restricting the import of goods into Canada, thereby limiting benefits under the GATT: what was at stake was the import of a magazine (a good) rather than the advertising (services) contained in the magazine.

Canada Periodicals was a landmark case in helping to distinguish between goods and services in the WTO. As mentioned, services are not expressly defined in the GATS. Under the GATS all services are covered except those supplied in the exercise of governmental authority, and all measures affecting the supply of services. The GATS defines trade in services, as the supply of a service through any of the four modes, specified in Article 1.⁹⁷ The agreement

⁹⁶ Case WT/DS31/AB/R, 1997.

⁹⁷ The four modes of supply are: (1) cross-border, where the services are supplied from the territory of one Member into another; (2) consumption abroad, where the consumer purchases a service which is delivered in the territory of another Member; (3) Commercial presence, where a service supplier of one Member establishes a subsidiary or a branch in another Member to supply a service; (4) presence of natural persons, with services supplied by a person working in the territory of another Member.

does not distinguish between the different technological means by which a service may be delivered, whether between people, through the postal system, by telephone or across the internet. As such, the electronic delivery of a service is covered by the GATS, demonstrating a general principle within the WTO, that the legal regime governing a transaction is determined by the nature of the product that is traded and not by means of its delivery or production.⁹⁸ The General Council has determined that the GATS applies to all measures affecting the supply of services. In the Panel report of the *Bananas* case,⁹⁹ the term 'affecting' has been interpreted to cover not only measures that directly govern the supply of a service, but also measures that indirectly affect it.¹⁰⁰

One focus of *Canada Periodicals* was determining the issue of classification of advertising space within a magazine, a good. The WTO Agreements make use of two classification systems: the harmonised commodity description and coding system (HS), which applies to goods under the GATT, originally created under the auspices of the World Customs Organisation (WCO), and the classification list (W/120), which is based to a great extent on the provisional United Nations' central product classification (UNCPC), and applies mainly to services under the GATS. Although both the HS and the UNCPC were originally developed for statistical purposes, most scheduled commitments of WTO members are based on these classification systems. The HS provides a system for the identification of products (product lines) that help Members identify the customs duties payable, and the collection and comparison of trade statistics. The HS is made up of a number of chapters that separate products by their physical characteristics rather than their end-use criteria. The chapters are further divided by headings, subheadings, and finally, the six-digit HS code number. The HS nomenclature is used to classify anything that qualifies as a good and in accordance with its *physical characteristics*.

For this reason alone, the HS may not be able to classify electronically tradable digitised information if such information was to be characterised as *goods*. Take the example of software: while the HS distinguishes between empty carrier media and carrier media with content, it does *not* have a classification for the content itself. The HS does not have a classification because software is not a *physical entity*. Goods on which software is stored, such as magnetic diskettes, magnetic tapes and disks for laser reading systems (for example, CDs and DVDs) are provided for, as 'recorded media', under the HS.

⁹⁸ WT/GC/W/90, WTO, 1998, p. 6.

⁹⁹ See report of the panel on *European communities – regime for the importation, sale and distribution of bananas – complaint by the United States* (WT/D S27/USA).

¹⁰⁰ WT/GC/W/90, WTO, 1998, p. 2.

As such, software is treated as sound and video recordings only. Furthermore as far as a service's classification is concerned, the W/120 only defines software in the context of its description of computer and related services, it does not define software as a service in its own right. Software is defined as part of the W/120 description of Software Implementation Services (computer and related services), based loosely on UNCPC Code 842 as services related to 'consultancy, development and implementation' (but not the software itself). Neither packaged nor customised software appears to be covered by the existing GATS framework. This is just one specific example of where the goods HS classification framework and the services W/120 classification framework fail to adequately classify the electronic intangible software, either as a good or as a service. The European Communities, however, have looked very carefully at the UNCPC 842 definition on software implementation services. In looking at this definition, the European Communities in their submission to the General Council argue that the electronic transmission of software simply forms the delivery part of the *development* of software and is therefore subject to the GATS and commitments on the services of UNCPC 842.¹⁰¹ This is a very clever twist on the definition contained in category 842 and underlies the EC's keenness to ensure that an intangible product such as software falls under the GATS rather than the GATT. We shall return to the differing positions of the European Communities and the United States later in this chapter at Section 6.5.

6.4.2 The Principle of Trade Neutrality

Under this principle set out in Article III GATT, like products are generally subject to like trade rules. Matsushita et al. (2003) argue that 'the like product determination' is one of the thorniest in GATT/WTO jurisprudence. Panel and Appellate Body reports routinely state that the determination of whether products are 'like' should be made on a case-by-case basis.¹⁰² In WTO jurisprudence, three different approaches have been used for determining whether imported and domestic products are 'like' for the purposes of the national treatment obligations under Article III:2 and Article III:4 GATT. The leading case is *Japan – Taxes on Alcoholic Beverages*¹⁰³ (*Japan Beverages*). In this case the decision as to whether products are similar, or are directly competitive and substitutable, focuses on the following factors:

¹⁰¹ See WT/GC/W/497.

¹⁰² See Appellate Body report, *Japan – Taxes Alcoholic Beverages*, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, WTO, 1996.

¹⁰³ Ibid.

- the product's end-uses in a given market;
- consumer's tastes and habits;
- the product's properties, nature and quality.¹⁰⁴

In *Japan Beverages*, the Appellate Body specifically endorsed looking at 'competition in the relevant market', including by assessing the elasticity of substitution between two products.¹⁰⁵ Because electronic intangibles can be argued to be directly substitutable with their physical counterparts (viz., CDs and MP3 files), the principle of trade neutrality will normally require that electronic intangibles should therefore be treated no differently from physical products, and that GATT rules applicable to physical products (or their equivalent) should apply to electronic intangibles. In the report of the Fifth Dedicated Discussion of the General Council on e-commerce,¹⁰⁶ the General Council picked up on the inconsistent treatment of similar products under the GATT and the GATS. They highlighted the case of software (discussed above) and architectural services. For architectural services they described a situation where a Member had full commitments for architectural services (and therefore no restrictions on market access and national treatment), but at the same time imposed customs duties on the physical architectural design (the *physical outcome* of the service).¹⁰⁷ Because the same architectural design could be downloaded from the internet, the problem of inconsistent treatment was very apparent. To deal with this problem of inconsistency, Drake and Nicolaidis suggest that one solution (under GATS for example) might be to specify that the service being assessed for likeness is actually the service *input* to a transaction rather than the subsequently customized end-product (output).¹⁰⁸ However, the solution they suggest could still give rise to similar inputs (for example conventional film and its electronic equivalent, a webcast) giving rise to inconsistent treatment. The European Communities argue that where market access for an electronic transmission covered under the GATS is not granted the same level as its physical counterpart, where such counterpart exists (and where transactions are economically comparative), it would then be necessary for WTO Members to address consistency problems on a *case-by-case* basis.¹⁰⁹ The EC does not state in what forum such cases would be heard, but

¹⁰⁴ See Appellate body report, *Japan Beverages*, paras 23 to 25.

¹⁰⁵ *Japan Beverages*, para. 26.

¹⁰⁶ See section 1 (classification) WT/GC/W/509 (July 2003) at p. 3.

¹⁰⁷ *Ibid.*

¹⁰⁸ Drake, W., and Nicolaidis, K., 'Global Electronic Commerce and GATS: The Millennium Round and Beyond, in *GATS 2000*' in *New Directions in Services Trade Liberalisation* (eds Sauve, P., and Stern, R.M.), Brookings Institution, 2000.

¹⁰⁹ WT/GC/W/497, WTO, 2003.

the assumption is that it would be the WTO's Dispute Settlement Body. However, to have an institution such as the WTO pass judgment on individual Members' regulatory regimes in this way would not be satisfactory.

In order to ensure the neutral treatment of physical and digital deliveries we would also need to consider the practicality of imposing and collecting duties on delivery of electronic intangibles and also whether it would even be desirable to do so. The impracticability of imposing duties on electronic deliveries has perhaps led to the current moratorium agreed by WTO Members of not imposing customs duties on electronic transmissions.

6.4.3 The Principle of Technological Neutrality

The principle of trade neutrality under the GATT would compare with the principle of technological neutrality under the GATS. The European Commission in its submission to the General Council in May 2003 referred to technological neutrality 'as the need for a similar treatment of economically comparative transactions, independent from the technology used'.¹¹⁰ In the same submission, the European Communities also refer (in a footnote) to a different notion of technological neutrality: 'where a rule or a specific commitment was written in a manner that did not distinguish between technologies, then that rule or specific commitment would apply to any sort of technology used'.¹¹¹ The GATS Agreement defines trade in services as the supply of a service through any of four modes: cross-border supply, consumption abroad, commercial presence and movement of natural persons. The four modes differentiate services transactions on the basis of the territorial presence of a supplier and the consumer of the service. The GATS makes no distinction between the different technological means by which a service may be delivered. Measures affecting the electronic delivery of services are 'measures affecting trade in services' in the sense of Article 1 of the GATS just as they would be if imposed by any other means. It is also important to note that the 'supply' of service is defined to include production, distribution marketing, a sale and delivery of a service.¹¹²

Furthermore, in scheduling basic telecommunications services commitments, GATS commitments apply to services 'provided through any means of technology (cable, wireless, satellite etc)'.¹¹³ Under this principle, a change in delivery technology should not therefore change the applicable trade protections, and one technology should not be favoured over another. The principle

¹¹⁰ Ibid, at para. 14.

¹¹¹ Ibid at note 3.

¹¹² Article XVIII(b) GATS.

¹¹³ Document 5/GBT/W/2/Rev 1, WTO, 1997.

of technological neutrality would also require that directly substitutable products be treated under the same trade rules. So, for example, CDs and print books would be classed under the same trade rules as MP3 files and digital books respectively. The *US-Gambling* case has now confirmed the principle of technological neutrality, arguing that on-line gambling services provided remotely should be classed as 'like' domestic gambling services. The issue of likeness is an important one for e-commerce, assessing whether electronic services are like their 'brick and mortar' or conventional trade services. The test of likeness confirmed in *US-Gambling* is discussed further below in Section 6.6.

6.4.4 The Principle of Progressive Trade Liberalisation

Under this principle, commitments on tariff reductions may not be withdrawn (GATT Article 2:1(b)), and any withdrawal of GATS commitments requires payment of compensation to affected countries (GATS Article XX). The principle of 'no step backwards' has been very successful in achieving tariff reductions under the GATT. The question however for WTO negotiators is whether in classifying electronic intangibles under the GATS, lesser protection is achieved than a classification under the GATT. Ogoti and Shah (2001) argue that the GATT aims at free trade at a faster pace compared to the GATS, which aims at progressive liberalisation of service sectors. There may be merit in this argument, but the counter-argument would be that in the long term, the greater flexibility offered by the GATS (for dealing with 'content' issues for example) might generate better rewards than simply lower tariffs for electronic deliveries under the GATT.

6.5 THE POSITION OF THE UNITED STATES AND THE EUROPEAN COMMUNITIES ON THE CLASSIFICATION OF ELECTRONIC INTANGIBLES

In discussing this issue, most WTO Members have gathered around the differing positions adopted by the United States and the European Communities on whether or not the GATT or the GATS respectively should apply to electronic intangibles.¹¹⁴ These positions have arisen primarily from the differing

¹¹⁴ With the exception of the governments of Singapore and Indonesia, which have also added the contribution that electronic intangibles could be classed as tradable intellectual property rights under the TRIPS. However, in their submission to the General Council (WT/GC/W/247), both governments also consider the position under the GATT and the GATS.

architectures offered by the GATT and the GATS described above. For example, the United States has been the principal advocate of the view that electronic intangibles should be classified as goods and benefit from GATT protections. In its submission to the WTO's General Council, the United States argues:

... While the transmission of these [electronic intangibles] products can certainly be characterised as a service, the products themselves are not consumed in their transmission, but rather retain a permanence analogous to the goods world. . . .¹¹⁵

In the same submission, the United States also attempts to draw a connection between electronic intangibles and other 'intangible' products that already have a goods classification. For example, the United States poses the interesting question: 'what are the implications of the long-standing practice of some WTO Members to classify "electricity" (clearly an intangible) as a good in their tariff schedules?'

However, in a later submission to the General Council in 2003, the United States appears to have softened its position, taking a more indirect approach to the issue of classification, arguing that:

Today, these products can flow seamlessly across global networks and can be permanently retained on an end-user's computer, and still retain the underlying functions as if they were sent in physical form. Thus, the means of delivery of such products may change but the downloadable products' *functional characteristics* do not change merely by a difference in delivery.¹¹⁶

The United States appears to stop short of suggesting that electronic intangibles should be classed as goods under the GATT, but focuses instead on the functional characteristics of the product. In doing so, the US shifts the emphasis from the *means* of delivery by way of a telecommunications or internet transmission service to the *product* itself, a good. Later the United States suggests that 'the focus should not be on how to classify these products, but rather on how to treat them for trade purposes with the goal being the most liberal treatment irrespective of how such products are classified'.¹¹⁷

There is also a greater focus on the issue of trade promotion rather than classification and it is noted that 'currently digital products in their physical form and on-line equivalents have for a number of years been traded under circumstances in which they may be subject to either the GATT or the GATS', and 'which counsels against prematurely establishing new trade rules for e-commerce'.¹¹⁸

¹¹⁵ WT/GC/16, WTO, 1999, para. 7.

¹¹⁶ My emphasis: see WT/GC/W/493/Rev.1, WTO, 2003, para. 7.

¹¹⁷ Ibid.

¹¹⁸ Ibid at para. 13.

It would appear therefore that the United States has most certainly softened its position on insisting on a goods classification for electronic intangibles under the GATT. On the point of the current moratorium on customs duties, the United States addresses the desire by some Members to impose tariffs on electronic intangibles (on the grounds that the physical equivalents of such products suffer a higher tariff under the GATT) by suggesting that equivalence of treatment should be achieved *not* by imposing tariffs on electronic intangibles *but* by lowering current tariffs on the equivalent physical product. The United States justifies this argument by suggesting that the ‘direct effects of government revenue through tariff losses seem to be very small whereas the effects on the efficiency of an economy can be large’.¹¹⁹ It remains to be seen how DCs and LDCs, for now mainly net importers of electronic services (with the notable exceptions of India and China), will react to such a position.

It is also important to point out that the US position on classifying electronic intangibles under the GATT is inconsistent. This is perhaps surprising given the significance of this type of trade to the US. Nevertheless an inconsistency does arise and comes about from the not very much discussed United States position on *customs valuation*. This position, buried in various obscure meetings of the WTO’s Technical Committee on Customs Valuation and the World Customs Organisation (WCO), basically covers the scenario where software or other data instructions are imported into a country by way of satellite signals.

In the Decision on the Valuation of Carrier Media Bearing Software for Data Processing Equipment originally adopted by the Tokyo Round Committee on 24 September 1984,¹²⁰ the Decision reads (at paragraph 2):

In determining the customs value of imported carrier media bearing data or instructions, only the cost or value of the carrier medium itself shall be taken into account. The customs value shall not, therefore, include the cost or value of the data or instructions, provided that this is distinguished from the cost or the value of the carrier medium.¹²¹

This Decision was in line with United States policy that data should not be taxed, and only the value of the carrier medium (whether by satellite or physical support) should be taxed. However in a separate report produced by the WCO, the WCO Secretariat makes the following statement:

¹¹⁹ Ibid at p. 7.

¹²⁰ See WTO document: VAL/M/10.

¹²¹ See para. 5 of G/C/W/128 for a full extract of this decision and the commentary of the WTO’s Secretariat.

The [WCO] Secretariat believes, subject to the application of GATT decision 4.1,¹²² that there may be circumstances under the WTO Agreement where the cost of such software may form part of the customs value of imported goods.

And in a further report, the WCO states that:

The WCO believes that there may be situations, perhaps limited in number, where the payment for software imported by satellite could fall within the total payment made or to be made by the buyer in respect of an imported good.¹²³

In short, the WCO is stating that in certain circumstances (for example where the carrier media was a satellite signal), the data or software carried by the satellite signal could be classed as a good and therefore subject to customs valuation. The United States disagreed with this opinion and sought reassurance that in fact data/software was *not* a good and was *not* subject to customs valuation. In the end, the US achieved this result.¹²⁴

What is clear is that the United States would now like data and software in the form of electronic intangibles to be classed as *goods*, and subject to the GATT, albeit with the current moratorium on customs duties remaining in place. It would appear therefore, for want of a better expression, that the United States would like to have its cake and eat it. In contrast, the European Communities contend in their submission to the General Council that electronic intangibles should be treated as services and e-commerce involving two types of delivery:

- Goods delivered physically, while ordered electronically, which fall within the scope of the GATT
- Electronic deliveries, which consist of services and therefore fall within the scope of the GATS¹²⁵

The European Communities' position finds support from other Members of the WTO for several reasons: A services classification for electronic intangibles allows countries to apply content restrictions based on national origin. Existing restrictions of this type include the EU *Television without Frontiers Directive* (which requires EC broadcasters to reserve a majority of their transmission time for European works).¹²⁶ The ability to restrict trade in electronic

¹²² This is the Decision adopted by the Committee on Customs Valuation in May 1995, which is referred to above.

¹²³ See G/VAL/W/12 or the citation to this report by the WTO Secretariat in G/C/W/128 at para. 5.

¹²⁴ See para. 5.8 G/C/W/128.

¹²⁵ WT/GC/W/306, WTO, 1999, para. 1.

¹²⁶ See Articles 5 and 6 of Directive 89/552/EEC (as amended).

intangibles under GATS also offers Members more scope for imposing restraints on the current global strength of US e-commerce companies abroad.

Historically, the WTO Secretariat has tended to lean in favour of the EC's position of a GATS classification for electronic intangibles, and notes that Members endorse the view that the vast majority of all products delivered electronically are services, although 'there is still disagreement over a limited number of these deliveries'.¹²⁷ In an earlier report, the WTO Secretariat took an even stronger position arguing that: 'Any suggestion that "electronic transmissions" as such should be regarded as outside the scope of the GATS would of course fundamentally damage the entire [GATS] Agreement and undermine a wide range of existing commitments, since the vast majority of cross-border trade in many sectors is done electronically'.¹²⁸

In a more recent submission to the General Council, the European Communities also take a strong position, addressing directly the United States position of focusing on the *functional characteristics* of a product:

... the HS and WTO Members' schedules generally only list physical goods according to their physical characteristics. The fact that some intangibles such as electricity are classified as goods is the exception that proves the rule: where intangible products were intended to be subject to the GATT 1994, this was expressly provided for in the schedules. And the GATT schedules *have never covered any information digitised into bits and sent across a border* through a telecommunications network, directly from the supplier to the customer. . . . What members need to discuss here is thus only the transmission of digitised information and how to classify the transmission of digitised information.¹²⁹

Clearly, in the last line, the European Communities are adopting a diametrically opposite view to the position taken by the United States. The Commission discusses a number of electronic intangibles that in the past had to be stored on physical supports (CDs etc.) to be transmitted to the customer, but now no longer need such supports, given direct delivery options by way of the internet. The EC can see no reason to artificially turn the electronic delivery of such products into a good in order for the GATT 1994 to apply. The EC argues that:

¹²⁷ S/C/W/183, WTO, 2000, p. 2.

¹²⁸ S/C/W/68, WTO, 1998, para. 37.

¹²⁹ WT/GC/W/497, WTO, 2003, paras 7 and 9. See also the report of the Fifth Dedicated Discussion on electronic commerce under the auspices of the General Council (July 2003), where the European Communities argue that 'there was no tariff line in the classification of goods under the GATT that could accommodate electronic products; the GATT did not, and could not, cover electronic products'. WT/GC/W/509, para. 1, p. 2.

As clarified by the Appellate Body already way back in the European Communities – *Bananas* case, only where a service is supplied in conjunction with a particular good, the respective scopes of the GATS and the GATT 1994 may overlap. The underlying reason is that a trade measure can sometimes hinder both the importation of the good and the provision of the related service. But now that the service can be delivered without the handling of a good, the application of the GATT is not necessary any more.

And in the next paragraph:

If WTO Members started to classify under the GATT electronic deliveries with a physical equivalent, it would bring under the GATT many services (architectural services, engineering services, consulting services, health services. . . etc) that have physical outcomes.¹³⁰

The European Communities argue that to bring such products under the scope of the GATT would create uncertainty and destabilize the operation of the GATS. There are also strong political reasons for the European Communities wanting to classify electronic intangibles as services. For example, the European Commission's own legal framework for electronic commerce adopts a 'services approach'. The primary Directive dealing with e-commerce is the EC's Directive 200/31/EC¹³¹ that states:

This Directive seeks to contribute to the proper functioning of the internal market by ensuring the free movement of information society services between the Member States.¹³²

Clearly the focus of the Directive is on services and *not* goods. In the field of tax, with the amendment to the EC's Sixth VAT Directive 77/388/EEC,¹³³ data processing and the supplying of information, intellectual property rights, advertising services, banking, financial and insurance transactions, radio and television broadcasting services, telecommunication services (including access to networks), and electronically supplied services all fall under Article 9 of the Directive, relating to the supply of *services*.¹³⁴ Therefore to classify

¹³⁰ Ibid, WT/GC/W/497, WTO, 2003.

¹³¹ Directive 2000/31/EC on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce).

¹³² Ibid at Article 2.

¹³³ Amended by Directive 2002/38/EC as regards the value added tax arrangements applicable to radio and television broadcasting services and certain electronically supplied services.

¹³⁴ Interestingly, however, electricity and gas (non-physical objects) are treated as *goods* under Article 5(2) Directive.

electronic intangibles as goods would mean creating inconsistency between the EC's own internal legal framework and that of its external policy.

There is also the issue of protection of European *culture*. One example of such protection at work is the already mentioned inclusion of audiovisual services under the GATS, which allows for a variety of protections under Articles XVI (market access), XVII (national treatment) and XIV (general exceptions). Currently, a GATS listing allows restrictions on non-EU content being transmitted within the EU by way of national commitment restrictions in the European Communities Schedule of Specific Commitments (both 1994 and 1997).¹³⁵ A GATS listing for electronic intangibles would therefore allow a similar range of protections in related 'content rich' sectors, such as education, health, advertising, medical, legal, insurance etc., depending on the level of specific commitments inscribed by the European Communities in these fields. Furthermore, given the European Union's powers to negotiate future trade rounds under any new *potential* Constitution for Europe,¹³⁶ inconsistencies between internal policy approaches to classification of electronic intangibles and EC external policy will create unwanted difficulties for the Union in the years ahead.

As mentioned, the European position seems to find favour with other WTO Members. The Government of Australia, for example, seems to support the European Communities' position on classification:

It is probably mistaken to seek a definitive determination of this [classification] question which may, in the end, be resolved according to the nature of the specific transaction. At this stage, we would not see significant benefit from members seeking to identify particular products that could be treated as goods, even if electronically transmitted . . . The classification process should aim for the maximum separation between the nature of services supplied and the means of supply. The analogy for classification should be with other classes of product where the substantial value is distinct, and can be separated from the form and medium in which the product is finally consumed. This is more commonly an attribute of services, rather than goods.¹³⁷

The Government of Japan, however, favours the United States position for goods under the GATT arguing that 'the GATT principles of the most-favoured nation treatment, national treatment and the general elimination of

¹³⁵ In this example the relevant measure would be Council Directive 89/552/EEC (as amended by Council Directive 97/36/EC). Article 4 of the Directive requires that EU broadcasters reserve a majority of their transmission time for European works.

¹³⁶ Under direction from the European Council of Ministers: see for example Chapter VI, International Agreements, draft Constitution for Europe 2003/C169/01 (July 2003).

¹³⁷ See S/C/W/108, paras 21 and 22.

quantitative restrictions will apply to such digital contents'.¹³⁸ Canada is more cautious, arguing for a goods classification on software only (but in classifying software under the GATT would presumably agree *de facto* to all other electronic intangibles being classified in the same way):

In the case of software, the GATT currently provides a well-developed set of rules and disciplines that offer certainty and predictability in the determination of the rights and obligations of producers and particularly exporters in both domestic and foreign markets. Classifying electronically traded software as a good would presumably allow software producers to continue to take advantage of the level of liberalization achieved under the GATT and, in particular, the ITA (The WTO's Information Technology Agreement).¹³⁹

6.6 US-GAMBLING

US-Gambling marks a turning point for the GATS in that it is the first case decided that directly involves trade over the internet. *Mexico – Measures affecting telecommunications services* is discussed in Chapters 3 and 7 and is concerned with cross-border telecommunications services, but in *US-Gambling*, the DSB panel¹⁴⁰ and after that the Appellate Body¹⁴¹ discussed US measures that would restrict foreign members from providing gambling services remotely to US consumers, whether by fax, e-mail, telephone or the internet for example. In 2003, Antigua and Barbuda requested the WTO Secretariat to establish a panel to review US measures on the cross-border supply of gambling and betting services. Central to the complaint was Antigua's assertion that US Federal and state measures on the cross-border supply of gambling and betting services was a violation of GATS Article XVI:1 on market access. Antigua claimed that the US had made a full commitment to the cross-border supply of gambling and betting services and that prohibiting all cross-border supply of such services was a violation of Article XVI:1.¹⁴² In effect, a full prohibition amounted to a 'zero quota'. The US argued that it had made no commitment to gambling and betting services and claimed that market access restrictions are allowed and the specific market access restrictions set out in Article XVI:2

¹³⁸ See WT/GC/W/253, para. 10.

¹³⁹ Canada's non-paper to the WTO (May 2002): 'The Classification of Software Delivered Electronically', at http://www.dfait-maeci.gc.ca/tna-nac/wto_nonpaper-en.asp?format=print, accessed 26/11/03.

¹⁴⁰ *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services: Report of the Panel*, WT/DS285/R (November 2004).

¹⁴¹ *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services: Report of the Appellate Body*, WT/DS285/AB/R (April 2005).

¹⁴² *US-Gambling Panel Report*, para. 3.124.

which describe numerical quotas are the only categories that would fall foul of Article XVI. The US argued that:

... the gambling-related US measures listed in the Panel request are framed entirely in terms of non-numerical criteria that restrict certain forms of activity, rather than numbers of providers, operations, or output. Thus, no relevant US measures would appear to fall within the ambit of Article XVI:2.¹⁴³

Another important issue raised by Antigua was the concept of ‘like services’. Antigua argued that under GATS Article XVII on national treatment, the type of games offered by Antigua are the same as those offered by the US, the only difference being the origin of the services and the suppliers and the mode of supply (cross-border as opposed to commercial presence).¹⁴⁴ Antigua cited the Appellate Body’s report in the *EC-Asbestos* case,¹⁴⁵ arguing that the AB in that case referred to four categories of characteristics that have been used to assess ‘likeness’ in the context of the GATT: (i) physical properties; (ii) capability of serving the same or similar end-uses; (iii) consumer perception; and (iv) international tariff classification.¹⁴⁶ The US refuted the issue of likeness, arguing that the ownership and structure of US gambling services together with how such services were regulated in the US rendered them ‘unlike’. The US argued that:

... The GATS explicitly recognizes in its preamble the ‘right of Members to regulate’ services. The ‘like services and suppliers’ language of Article XVII must therefore be interpreted in light of that object and purpose of the GATS. Thus one must consider not only the different competitive characteristics of a service or supplier as such, but also the existence of regulatory distinctions between services in interpreting and applying the likeness analysis under Article XVII.¹⁴⁷

Japan in its submission as a third party observer to the proceedings made a similar argument to the US that cross-border supply could be considered ‘unlike’ domestic supply because regulatory circumstances were different.¹⁴⁸ *US-Gambling* resulted in an extremely lengthy panel report (almost 300 pages), and a shorter AB report of over 100 pages. A full discussion of the case is beyond the scope of this book. In summary, however, the other main issue at stake was whether the US was permitted to restrict cross-border gambling

¹⁴³ *US-Gambling* Panel Report, para. 3.128

¹⁴⁴ *Ibid.*, para. 3.148.

¹⁴⁵ *European Communities – Measures affecting asbestos and asbestos-containing products*, WT/DS135/AB/R, April 2001.

¹⁴⁶ *Ibid.*, para. 101.

¹⁴⁷ *US-Gambling* Panel Report, para. 3.188.

¹⁴⁸ *US-Gambling* Panel Report, para. 3.162.

and betting services on grounds that its measures were 'necessary' to protect public morals or to maintain public order. The US maintained that its measures were consistent with the chapeau of Article XIV, which for example allows derogation of existing GATS commitments on public policy considerations, such as security, public morals and fraudulent practices.

The Appellate Body report was published in April 2005. In the report, the AB reversed the panel's decision, arguing that three out of the four US measures at stake were necessary to protect public morals and that the US could maintain these measures. The AB also ruled that the US had not shown that one of its measures (the Inter-State Horseracing Act) applied to both domestic and foreign service suppliers and it was therefore not in conformity with the chapeau of Article XIV. Both the panel and AB reports maintain the rule of technological neutrality discussed earlier in this chapter and that GATS obligations taken in 1994 would apply to any current or future delivery technology under cross-border supply (GATS mode 1).¹⁴⁹ The AB argued that the US GATS schedule included commitments in respect of gambling and betting services and that any restriction on electronic service delivery under Mode 1 was in effect an imposition in the form of quotas and therefore a breach of Article XVI:2(c) GATS.¹⁵⁰ The significance of this ruling is great. New internet services delivered under Mode 1 and where such services can be captured by an existing GATS commitment (and relevant CPC and WS/120 classification code) will therefore automatically be covered by the GATS. In other words, a Mode 1 commitment automatically secures market access for like services regardless of the technology of delivery. WTO Members therefore need to be particularly careful when drafting new commitments under Mode 1, to specifically exclude any service that could also be subject to electronic trade. The US had tried to argue that gambling and betting fell outside their scheduled commitments as they had deviated from the CPC classification code when making commitments in the entertainment sector. The AB argued that in making commitments, members would need to adhere to the CPC and WS/120 and that any deviation from these guidelines should be detailed carefully.¹⁵¹ Another important issue arising from the case is the distinction between the regulation of *suppliers* of electronic services and *consumers* of such services. So for example, as mentioned above, restrictions on cross-border *supply* of electronic services could be classed as a violation of Article XVI, but restrictive regulation by a Member of the *consumption* of those services by the relevant Member's consumers would be permissible under Article XIV GATS. Presumably regulations that restrict consumers' consumption would fall to be

¹⁴⁹ *US-Gambling* AB Report, para. 265.

¹⁵⁰ *US-Gambling* Panel Report, para. 6.355.

¹⁵¹ *US-Gambling* AB, paras 203 and 204.

considered under Article VI on domestic regulation, therefore creating a hazy boundary between GATS Articles XVI and VI. The upshot of this is a fear of diminished sovereignty over domestic public policy and local services regulation. The key issue is to determine what is ‘necessary’ to protect public morals and to maintain public order. Both the Panel and the AB established a weighing and balancing test to determine the issue of ‘necessity’, citing the case of *Korea – Various measures on beef*.¹⁵² In short, this test questions whether the measures (i) protect very important societal interests; (ii) impose strict controls to protect such measures; and (iii) contribute to the realisation of the ends that they pursue.¹⁵³ In *US-Gambling*, the AB found that the Panel had erred in not looking for suitable alternative remedies that the US could have pursued other than the measures that they had adopted, and that in failing to do so, and with Antigua failing to establish a suitable alternative measure, the US measures were in fact necessary. The Panel had focused on the failure of the US to enter into consultations with Antigua on alternative measures for protecting public morals as a failure of establishing ‘necessity’. The AB argued that this was a mistake and that ‘such consultations in our view, cannot qualify as a reasonably available alternative measure with which a challenged measure should be compared’.¹⁵⁴ Perhaps in this sense, the AB ruling reversing the Panel’s determination on the applicability of Article XIV to US measures was not as robustly argued as other aspects of their report, considering that the end result was to create a distinction between the regulation of foreign suppliers of electronic services attempting to gain access to the US market (easier) and the consumption of their services by US consumers (more difficult). In providing access to the US market by the former but restricting access to the latter, Antigua argued that such a result was ‘absurd’.¹⁵⁵

6.7 CONCLUSION

It would perhaps be helpful at this stage, before considering possible solutions to the problem of classifying electronic intangibles, to summarise the outstanding problems. First there is a problem with classifying electronic intangibles under the GATT, as most market access commitments that have been made in the e-commerce sector (telecoms, audiovisual, computer, express delivery services etc.), have been made under the GATS. Second,

¹⁵² *Korea – Measures affecting imports of fresh, chilled, and frozen beef*, WT/DS161/AB/R, WT/DS169/AB/R, January 2001.

¹⁵³ *US-Gambling AB* report, para. 323.

¹⁵⁴ *Ibid*, para. 321.

¹⁵⁵ *Ibid*, para. 68.

some electronic intangibles are more like services than goods, for example video on demand, customised MP3 collections etc., and vice-versa (pay-per-view). If both goods and services can be delivered on-line, there will be constant and thorny questions regarding whether e-commerce activities (and which electronic intangibles) are subject to the GATT and which are subject to the GATS. Third, customs duties are the significant national measures for trade in goods. Worldwide, national customs systems are designed for trade in goods. Given the nature of distribution over the internet, it may be nearly impossible to reliably enforce customs duties on electronic intangibles, although the technology is now available for putting in place micro-payment systems for electronic deliverables, spearheaded by the music and film industries' use of digital rights management technologies.¹⁵⁶ However, for many developing nations (and some developed), the cost of introducing such systems, or requiring their respective Small and Medium Sized Enterprise (SME) sectors to do so through domestic regulation, would be prohibitive. Fourth, the GATS has no compulsory or universally agreed classification system for services. Members usually follow the nomenclature developed for GATS purposes (GNS/W/120), which in many sectors is based on the provisional Central Products Classification (CPC) of the UN.¹⁵⁷ If electronic intangibles are determined not to fall under either the GATT or the GATS, then new rules will be required and the problem will be to determine the extent of these rules, or whether existing ones can be reformed, extended or interpreted in ways that would mean the law keeping step with the technology.

Given these difficulties, a possible way forward would be to adopt the solution offered by Baker et al. (2001) and allow the WTO Dispute Settlement Body (DSB) to resolve the problem. Drake and Nicolaidis, however, think that such an approach would not be effective in determining which electronic intangibles are goods and which services. They argue that the DSB should be used to interpret WTO Members' *collective* intent as expressed in WTO instruments rather than force governments to legislate on such fundamental issues when they were unable to agree on a common approach. To some extent, however, with the *US-Gambling* case discussed above, the DSB has determined some issues regarding trade in electronic-based services, for example with regard to technological neutrality all Mode 1-based GATS commitments now cover electronic delivery of services. *US-Gambling* has not however

¹⁵⁶ <http://www.pico-pay.com/download/musicpaper.pdf>, accessed 20/11/03.

¹⁵⁷ CPC was not used in a number of sectors, including financial, telecommunications, air transport, and maritime transport. CPC descriptions are usually technologically neutral, focusing on the end-use of the service concerned rather than the means or medium of delivery.

determined the more thorny question of which of the trade treaties should apply to electronic intangibles. Drake and Nicolaidis suggest ‘establishing a new category of “hybrid” products that have the properties of both goods and services’.¹⁵⁸ Another solution (discussed above) would be to treat electronic intangibles as tradable intellectual property rights, suggested by the governments of Singapore and Indonesia,¹⁵⁹ and the academic author Civilka.¹⁶⁰ Civilka further suggests the use of licence agreements in the assignment of IPR to suggest that electronic intangibles are services and not goods.

Drake and Nicolaidis also suggest a fourth solution:¹⁶¹ that trade negotiators should define and agree on clear criteria differentiating goods from services. Coming to such definitions would presumably encompass many of the arguments outlined earlier in this chapter when discussing legal rules for distinguishing between goods and services (Section 6.3). For an electronic intangible to be classed as a good, Drake and Nicolaidis suggest their own definition for a digital good that would require conformity with two fundamental criteria. Digital products can be categorised as goods if:

1. they can be locally stored;¹⁶² and
2. they are transferable between buyers.¹⁶³

They rightly observe, however, that if such a definition was adopted, WTO Members such as the European Communities would have far less flexibility to apply cultural exceptions (as under the GATS) to restrict non-EU imports of electronic content rich products. In the United States, the *Streamlined Sales Tax Project*, a think-tank consisting of the separate states of the United States, is developing measures to design, test and implement a sales tax and use tax system that simplifies the current system in the United States. They suggest a

¹⁵⁸ Drake, W., and Nicolaidis, K., ‘Global Electronic Commerce and GATS: The Millennium Round and Beyond’ in *GATS 2000: New Directions in Trade in Services* (eds Sauve, P., and Stern, R.), Brookings Institution Press, 2000, p. 410.

¹⁵⁹ WT/GC/W/247.

¹⁶⁰ ‘Digital Products: Goods or Services?’ Mindaugas Civilka, Vilnius University Law Faculty at: http://www.itc.tf.vu.lt/doc/mokslas/skaitmenines_pranesimas_angl.pdf, accessed 26/11/03.

¹⁶¹ Supra note 158.

¹⁶² Locally stored means that the ‘product is downloaded onto a physical medium. It need not take on a tangible form: a magazine, CD, or movie can be downloaded onto a computer and controlled by the consumer without any involvement by the producer and without making a separately packaged hard copy’. Supra footnote 158.

¹⁶³ ‘Transferable means that the value of the product can be preserved independently of the initial consumer and transferred to another consumer without the intervention of the producer.’ Ibid.

similar definition for a digital good where they define the digital equivalent of tangible personal property as a product (except for pre-written computer software) meeting all of the following conditions:

1. is expressed in binary digits;
2. is delivered, accessed, or subscribed to electronically and
3. the sale of which would be treated as a sale of tangible personal property if transferred on tangible storage media.¹⁶⁴

Hill (1999) argues that the traditional dichotomy between goods and services can be preserved provided intangibles are grouped with tangible goods. Also intangibles are sufficiently different from tangible goods that there may be a case for identifying them separately by having a trichotomy of tangible goods, intangible goods and services. He cites the *North American Industry Classification System*, which identifies a new Information and Cultural Industries Sector whose products it acknowledges to be unlike both traditional tangible goods and traditional services. The notes to the classification state that 'the value of these products does not lie in their tangible qualities but in their information, educational, cultural or entertainment content'. He argues that Europe should follow a similar approach.¹⁶⁵

Baker et al. suggest that rather than arguing between the GATS and the GATT, a better outcome might be for WTO Members to reach a negotiated solution to balance their interests. A solution would be to treat electronic intangibles as services *in exchange for* GATS commitments to give e-products (electronic intangibles) trade benefits equivalent to comparable physical goods.¹⁶⁶ However, for Baker's solution to work (particularly for the United States, Canada and Japan), a sufficient number of other WTO Member States would have to make adequate commitments to justify for example the United States agreeing to classify electronic intangibles as trade in services as opposed to goods. This kind of *critical mass* approach was also used in the negotiations on basic telecommunications, where the United States refused to make a binding offer under the GATS until at least 60% of other nations had committed to the Basic Agreement and the Reference Paper. If a GATS classification was settled upon, however, another important question would be whether the GATS could provide for a similar level of liberalisation as under

¹⁶⁴ See Digital Equivalent of tangible personal property Issue Paper (July 2003) at: <http://www.geocities.com/streamlined2000/index.html>, accessed 26/11/03.

¹⁶⁵ 'Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output', Hill, Peter, *Canadian Journal of Economics*, 32(2), 1999, p. 446.

¹⁶⁶ Baker et al., *supra* note 12, section C, p. 4.

the GATT, particularly if Members supported a GATS version of the Information Technology Agreement?¹⁶⁷

Whatever solution is found to the problem of classification of electronic intangibles, Members' trade negotiators need to be careful not to get too bogged down in entrenched positions that lead to protracted negotiations within the various councils of the WTO, and on cross-cutting issues in the General Council. A major challenge for the WTO Secretariat would be to develop a test for 'likeness' as regards intangible and tangible products and as mentioned in Chapter 6.4.2 (the principle of trade neutrality) above. *US-Gambling* has gone some way to establishing such a test, but many questions remain, for example, the role of regulation when distinguishing between 'like' services. The danger is that more powerful trading partners will be able to bypass WTO negotiations and incorporate rules on trade in electronic intangibles into Free Trade Agreements and Bilateral Investment Agreements (discussed in Chapter 9) that are much more favourable and ignore the classification issue. In this closing section, it is helpful to be reminded of paragraph 34 of the Doha Mandate that requires WTO Members to 'recognize the importance of creating and maintaining an environment which is favourable to the future development of electronic commerce'.¹⁶⁸ Unless a solution is found to the problem of classification, the WTO risks falling behind as business continues to do what it has been doing throughout history; using technology in advance of the law to further its own commercial interests.

The next part of this book, Part III, is dedicated to the position of developing countries. The issue of classification of goods/services reviewed in this chapter and also that of telecommunication services reviewed in Chapter 3 will be important issues for DCs and LDCs as they seek to attempt to expand potential exports of these products to OECD countries. Chapter 7 looks at telecommunications and developing countries, whereas Chapters 8 and 9 look at technology transfer and bilateralism respectively. The final chapter in Part III, Chapter 10, looks at international development and the role that IEL can play to benefit the position of DCs and LDCs.

¹⁶⁷ See non-paper by Government of Canada to the WTO General Council, 'Classification of Software Delivered Electronically', May 2002, para. 4.

¹⁶⁸ WTO, Doha 4th Ministerial – Ministerial declaration, WT/MIN(01)/DEC/1, 2001.

PART III

Developing countries

7. Developing countries and telecommunications

7.1 INTRODUCTION

Previous chapters have focused on the international regulation of telecommunications, and on US and EU markets in particular, where competition was introduced early, and liberalisation pushed (particularly by the European Commission in the EU) to encourage greater competition and end-user choice. As mentioned in Chapter 1 (Introduction), the aim of the earlier chapters (1–6) is to set out the ‘international rules of the game’, the rules of IEL that apply to the technology sector as regards the trade in electronic intangibles and the sectors (IT penetration, competition and telecommunications policy, internet diffusion etc.) that most directly address the Digital Divide. With some of these rules in hand (the connection between human rights and the Digital Divide is discussed later in Chapter 10), we can now turn our attention to how these rules might affect DCs and LDCs.

This chapter discusses the implications of cost-oriented rates and a framework for call termination being introduced by the Basic Agreement on Telecommunications (BTA) to developing countries. In Chapter 3, we saw how developed countries are using the *new modes of operation* to effectively bypass the international accounting rate regime and thereby escape having to pay high international accounting rate settlements. In this chapter, we will see how DCs and LDCs can use the New Modes of Operation *in reverse*, clawing back some of the disadvantages that they would otherwise face. We also saw how adoption of the regulatory Reference Paper (RP) effectively means a move away from international accounting rates to a cost-based interconnection regime. We will see in this chapter that there are both advantages and disadvantages to this approach. Chapter 3 also introduced the concept of the ITU’s Recommendation D.50, which deals with the cost implications of internet traffic flows. In this chapter, we will look at the implications of Recommendation D.50 for DCs and LDCs. Will the Recommendation lead to more transparent and fairer sharing of costs for conveying data traffic between developed and developing countries and vice-versa? Also, although a number of G-90 countries did not even undertake the additional commitment of the regulatory Reference Paper in its current

form, this chapter argues that there might be reasons for some G-90 countries to adopt a revised Reference Paper for IP-based networks based on the Layering Theory. In Chapters 4–6, the author developed the concept of the *Layering Theory* for the regulation of advanced digital networks, arguing that it would allow for increased transparency and non-discrimination by European incumbent operators, and ensure effective competition by more clearly identifying those operators with significant market power (SMP) in the kind of markets that DCs and LDCs would be likely to supply (off-shore value-added services, front and back-end office functions, medical, educational, financial, architectural, computer design etc., that could be performed remotely, and other kinds of electronic service provision including the supply of electronic fast moving consumer goods). In this chapter, the author clarifies how the Layering Theory can benefit DCs and LDCs wishing to gain access to OECD country markets in order to export electronic intangibles into such markets. Finally, the *World Summit on the Information Society* is discussed, the first phase of the summit having been held in Geneva in 2003, with the second phase in Tunisia in 2005. The aim of the summit was to set out a long-term policy framework to assist DCs and LDCs in addressing the Digital Divide (discussed in Chapter 2).

7.1.1 Background

In the area of telecommunications and over the period of the 1990s, the West saw unrivalled privatisation of their national telecommunication incumbents, which has led to lower prices and also expanded service functionality. In Europe, for example, the European Commission was eager to break the power that individual European Member States had over their respective national telecommunication networks, and where there was too close a relationship between government and the main telecommunications operator (incumbent telco). This was partly achieved through regulation (a series of liberalisation and harmonization directives under Articles 86 and 95 of the EC Treaty (then Articles 95 and 100), and partly by exploiting the commercial interests of some of the large operators that wished to merge or form joint ventures, such as Deutsche Telekom and France Telecom.¹ The Commission allowed the joint ventures but only on condition that their Member State governments pass national measures to introduce greater competition, for example in the area of interconnection (discussed in Chapter 3). Deregulation in Europe eventually led the way to a more arm's-length relationship between national regulator and incumbent operator, which in turn led to increased competition and lower end-user prices.

¹ See for example *Atlas* – Case No. IV/35.337 and *Phoenix/Global One* – Case No. IV/35.617.

However, many DCs and LDCs have been reluctant to liberalise their telecommunications markets and accept the regulatory Reference Paper. This is despite evidence available in the public domain that liberalising telecommunications can help address the Digital Divide (discussed in Chapter 2). There are various reasons for this, including political, economic and social obstacles. Furthermore, privatisation in DCs involves not only the transfer of assets but also the transfer of monopoly rights over the provision of yet-to-be built public services into private hands. The need is to avoid the plunder of state assets for the benefit of an elite. Liberalisation of international leased-lines, domestic leased-lines and long-distance telephony would also lead to the withdrawal of cross-subsidies to the traditional loss-making markets of local access and calls, with consequent price rises in local telephony markets.² For many DC and LDC governments such a move could lead to political tension and destabilisation. Another adverse economic effect could be increased unemployment as privatisation leads to a loss of jobs in the incumbent and loss of government revenue (if the monopoly operator was previously publicly owned). Liberalisation carried out in compliance with WTO or World Bank funding can also lead to expensive and counterproductive disputes between the Government and operators in the newly liberalised market segments and can be the reason for external entities exerting influence over the domestic telecommunications liberalisation agenda. Particularly important to DCs and LDCs are the international funding organisations in respect of ICT use, and the ways in which multilateral donor organisations, such as the World Bank, UNCTAD and developed-country-specific donor organisations, such as the UK's DFID, work together to meet international development goals, such as the *Millennium Development Goals* (MDGs) (discussed in Chapter 10).

Furthermore, the extent of increased telecommunications liberalisation reflected in any one country's Schedule of Specific Commitments under the GATS will indirectly impact on the levels of ICT penetration and access in urban and rural areas. As we saw in Chapter 2, greater liberalisation and policies that encourage further competition in the domestic market, have a positive effect on reducing the Digital Divide. This approach of increased liberalisation and further deregulation goes hand in hand with greater commitments under the WTO Information Technology Agreement (a GATT agreement), which seeks to lower the tariffs paid on the import of information

² DFID report by Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves T., Hunter, J., Jensen, M., Kariyawasam R., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., 'Reducing the Costs for Internet Access in Developing Countries' (hereafter the DFID report), Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published on the internet at <http://www.wesra.com/cost1.htm>, accessed September 2005.

technology products (mainly hardware) into a member country. By simultaneously reducing the cost of IT equipment, end-user choice is enhanced and IT penetration increases. This in turn has a positive effect on the Digital Divide as evidenced by some of the studies reviewed in Chapter 2. Also the extent to which ICTs are considered in domestic policy-making (for example, in respect of the delivery of services such as in employment, social services, social welfare benefits and education) will create a need for strategies to encourage and facilitate the use of ICTs for economic and social development and governance, and on the level of expertise and availability of resources in the countries concerned. The extent to which civil and political, and economic, cultural and social rights are also enforced at home will also have a positive effect on the Digital Divide as discussed in Chapter 2 (and later in Chapter 10).

In the telecommunications sector, priorities for negotiations under Doha have been greatly influenced by the reduction in the price of the mobile network infrastructure and the success of operators in countries previously considered too small or poor to offer commercial opportunities. For example, VoIP (discussed in Chapter 3) and other internet-based services have had a significant effect and the rise of third generation mobile technologies (3G) is already reducing the value of fixed-line access in countries that do not already have established fixed-line access infrastructure. At the regional level, the rise of bilateral and multilateral trading blocs through free-trade agreements and customs unions will have an impact on the results of the Doha round of negotiations, with the risk of multiple standards emerging when agreements are signed outside the framework of the WTO (discussed in Chapter 9).

7.2 DEVELOPING COUNTRIES, THE REFERENCE PAPER AND THE LAYERING THEORY

As seen in Chapter 5, the Layering Theory is a regulatory tool that will allow NRAs greater power to accurately determine market power in the communications sector. The author contends that as more traffic is switched over TCP/IP networks, it will become increasingly important for regulators to accurately determine where the access bottlenecks are so as to regulate for effective competition. For example in the EU, the provisions of Article 12 Access and Interconnection Directive will be crucial in helping service providers gain access to incumbent networks in order to deliver electronic services. The EC's new regulatory framework for electronic networks and services (discussed in Chapter 4) has now simplified the licensing procedures for service providers wishing to offer electronic services in the EU, creating a simple 'notification of services' system to NRAs replacing the older 'individual' and 'class' licensing systems. Subject to adequate network security issues, never before has it

been easier for DC and LDC third country operators to provide electronic services within the EU. And by satisfying registration requirements in one EU Member State for example, because of the free movement of goods and services provisions of the EC Treaty (Articles 49–51), such operators will be able to offer pan-European services. The function of the Layering Theory is to increase *effective competition* both within the EU, and, if reflected in a revised RP, at the multilateral level. The Theory allows for operators that would otherwise not be caught by current competition jurisprudence (for example due to the difficulty of defining an appropriate relevant market) to be caught and, in appropriate cases, access mandated. Such a power is particularly important in markets where electronic applications are driven by software just as much as hardware (for example, electronic program guides, the production/manufacture of which could be outsourced to a third country). Furthermore, by applying the theory at the multilateral level by amending WTO measures such as the RP (as suggested in Annex 1 of this book), the author is advocating increased effective competition at the multilateral level for cross-border electronic services under Mode 1 or consumption abroad of electronic services under Mode 2 GATS. Subject to the (separate) classification issue of electronic *intangibles* (discussed in Chapter 6), the Layering Theory will allow for increased market access and national treatment for any operator (whether from a developed or developing country) to deliver electronic intangibles into the target WTO member state, probably OECD countries that are dependent on access to lower cost high technology services. Naturally, adoption of a revised RP in light of the Layering Theory works both ways; DC and LDC markets will be just as open to competition from aggressive and efficient foreign operators as developed country markets will be open by DC and LDC operators who are able to undercut on costs of innovation and service delivery due to access to a cheaper workforce. How DCs and LDCs can to some extent protect their national markets (and developed countries cannot, due to the pace of regulatory change and existing measures in the communications sector in these countries) is discussed below.

Many developing countries did not undertake the additional commitment in the form of the regulatory Reference Paper, or if they did make a commitment, it was only a partial commitment.³ A number of developing countries object to the requirements to liberalise domestic national telecommunications as a consequence of adopting certain provisions in the Reference Paper, particularly provisions on interconnection. For example, a number of African and Caribbean countries, in particular Nigeria, Tanzania, and Trinidad and Tobago

³ See the telecommunications services section of the WTO website at www.wto.org. The WTO database holds a list of the telecommunications commitments of each of the WTO Member States, which can be accessed from the WTO (GATS) services site.

respectively, have argued that developing countries should be left free to liberalise in accordance with their own national policy objectives and under Article VI GATS, be left free to develop domestic regulation.⁴

The significance of maintaining flexibility for determining national policy has been adopted as a policy objective at the recent UNCTAD XI Conference in Sao Paulo (June 2004) (the *Sao Paulo Consensus*), which states at paragraph 8 that:

The increasing interdependence of national economies in a globalizing world and the emergence of rule-based regimes for international economic relations have meant that the space for national economic policy, i.e. the scope for domestic policies, especially in the areas of trade, investment and industrial development, is now often framed by international disciplines, commitments and global market considerations. It is for each Government to evaluate the trade-off between the benefits of accepting international rules and commitments and the constraints posed by the loss of policy space. It is particularly important for developing countries, bearing in mind development goals and objectives, that all countries take into account the need for appropriate balance between national policy space and international disciplines and commitments.⁵

Given that many DCs and LDCs have not made the additional commitment of the existing Reference Paper, it is hard to imagine that many of these WTO members would be interested in the amended version of the Reference Paper in light of the Layering Theory suggested by the author and included in this book at Annex I. This would also be the case where members have not scheduled internet (or internet access) services as part of their schedules of specific commitments. In fact, a number of G-90 countries will seek some diplomatic understanding on the decline of international accounting rates before agreeing to any new measures on electronic commerce or the internet, which they perceive as favouring the developed countries, particularly the *Quad* Countries of the United States, Canada, Japan and the European Communities. The ITU's International Telecommunications Regulations (ITRS) sets the framework for international accounting rates (discussed in Chapter 3). By contrast, many developed countries, who make net accounting rate settlements with DCs and LDCs in light of increased traffic terminating in the developing countries (that is, more outgoing calls from developed to developing countries⁶), see the ITRs as having been superseded by the WTO's Fourth Protocol

⁴ *Elements of a G-90 Platform on the Doha Work Programme* WT/L/577, July 2004.

⁵ UNCTAD, TDL/L30, June 2004.

⁶ This is unlikely to change even with internet traffic, where traffic patterns are *asymmetric*. With most websites being hosted in the US, requests for web pages from these sites generates increased traffic flow in the direction of the subscribers requesting

and Reference Paper, which introduces a cost-based approach to the conveyance of international telephony traffic, although the precise terms of these WTO measures remain vague. As mentioned in Chapter 3, a cost-based regime dramatically reduces the cost of terminating international traffic (to cost). Furthermore, the *Mexico-Telmex* case (discussed in Chapter 3) has now set an important precedent as to how the WTO measures could be interpreted both now and in the future, and mainly in line with a cost-based interconnection regime, effectively 'sidelining' the gentleman's agreement on accounting rates concluded in the early negotiating stages of the Fourth Protocol at the WTO.⁷ This is not good news for the DCs and LDCs that still retain monopoly domestic markets in telecommunications, and who would like to see the ITU's ITRs amended and revived.⁸ As mentioned in Chapter 3, at the time of writing the position has yet to be confirmed.

G-90 countries could also seek a phased implementation for any revised Reference Paper in light of the Layering Theory applying to packet-switched networks. Many of the LDCs have not made the switch from legacy circuit-switched networks to packet-switched technology for obvious costs reasons and therefore would have little interest in any revision of the Reference Paper as it stands. However, as UNCTAD's *World Investment Report 2004* has shown, a number of DCs, such as Singapore, China, India and Korea are not just magnets for inward foreign direct investment (FDI), but also are becoming *suppliers* of foreign direct investment themselves, and usually through technology-orientated companies, such as Singapore Telecom and the Hong Kong-based Hutchinson Telecom. This trend has continued. The *World Investment Report 2005* lists Hutchinson Whampoa (Hong Kong, China), Singtel (Singapore), Petronas (Malaysia), Samsung (Republic of Korea) and Cemex (Mexico) as the top four developing country TNCs.⁹ Countries such as India have also proved that a successful outsourcing operation can be developed with appropriate human resources and technological capability at home. Furthermore, this chapter discusses below how DCs can use the New Modes of Operation (discussed in Chapter 3) *in reverse*, aggregating traffic for termination in developed countries. In the next trade round, if G-90 countries were to seek from the Quad countries GATS-specific commitments in network-based transactions and complimentary services (services ancillary to telecommunication services, such as financial, distribution, computer, audiovisual etc.), DCs and LDCs who are able to attract sufficient FDI into their home

the content (generally in the developing countries). See section 2.3 of the DFID Internet Cost Study report.

⁷ See Section 3.2.2 above.

⁸ Sections 3.1–3.2 above.

⁹ UNCTAD, *World Investment Report 2005*, p. 17.

markets and who can utilise beneficial technology transfer to innovate themselves based on a well-trained human capital resource, will be able to make use of such commitments to generate an export portfolio of advanced network electronic services and goods into markets in the developed world. Imagine a situation where a number of developing countries are now able to develop complex TCP/IP-based services in-house and at much lower production costs than available in the United States, Canada, Japan or the EU. The incentive would be to export these services over modern IP networks back into domestic developed country (mainly OECD) markets for use as electronic communications services by developed country consumers in both front-end and back-end functions.¹⁰ All of these business practices, however, require appropriate market access commitments and also regulatory frameworks that can deal with IP-based networks. For these reasons, some members of the G-90 should look carefully at the Reference Paper for Bits and Bytes revised in the light of the Layering Theory and set out in Annex 1 of this book. In conjunction with a revised RP, DCs and LDCs will also need to lobby hard to enforce the provisions of the ITU *Recommendation D.50* (discussed below in Section 7.4) that seeks to result in more equitable payments by DC and LDC ISPs in interconnecting with the mainly (developed country) international internet backbone networks.

It is important to stress that DCs and LDCs, in acceding to greater liberalisation commitments, as set out in the revised RP, should only accept such commitments in line with their domestic liberalisation agendas. There is no reason why DCs and LDCs should adopt any revised RP as a consequence of WTO procedure. If not restricted by onerous provisions on trade in telecommunications in bilateral/FTA agreements with other countries (discussed in Chapter 9), DCs and LDCs will be free to adopt into their own domestic law as a matter of their own domestic policy choice only those provisions that seem appropriate. The fear of developing country administrations is an attack on the monopoly operation of LDC and DC incumbent telco operations and the consequent loss of monopoly rents. However, commitments to a revised RP can still be made so long as adequate measures to protect domestic incumbent telcos have been implemented in national law prior to such a commitment being made. For example, DC and LDC governments can choose to introduce legislation that will protect from new competition measures (brought in by adoption of the revised RP) any incumbent telco that is responsible for *services of a general economic interest* (SGEI), for example universal service/universal

¹⁰ Front-end functions apply to the group of services either hardware or software that directly interact with the customer (Electronic Program Guides for set-top boxes for example). Back-end functions relate to the range of services that are required to support the front-end functions (billing, network security, data collection and retrieval etc.).

access and public broadcasting functions. The European Commission was successful in protecting its Member States' national telco incumbents in just this way through the operation of Articles 86(2) and 86(3) of the EC Treaty for example, which sets out the framework for SGEI in Europe. Article 86(1) effectively protected operators that had been granted *special* (available only to a limited class of operators – for example, sale of leased-lines) and *exclusive* (available only to one or two operators – for example, basic voice services) rights by NRAs. With the gradual withdrawal of special and exclusive rights over time, particularly in telecommunications, the relevance of Article 86 to this sector has gradually diminished, although it remains necessary in the area of public service broadcasting, where exclusive licensing rights still exist to some extent. DCs and LDCs could learn from the EC's experience however and retain in their regulatory frameworks a position for special and exclusive rights in certain telecommunication sub-sectors (for example, international cable landing stations or basic electronic voice telephony services offered to the public).¹¹ The important point to note, however, is that within the EC, special and exclusive rights have been mainly removed, which allows third country operators who have notified that they are providing electronic services in the EU (conforming to the principles of the EC's Authorisation Directive 2002/20/EC for example) the chance to compete with national incumbent telcos.¹²

The other argument that needs to be made in favour of developing countries is that as a number of these countries develop their ICT industries, invest in IP-based infrastructure, develop the necessary human resource skills in areas of protocol design, coding, hardware and software development, and begin to identify technology service products that are suitable for export over network-based technologies ('complimentary services'), such countries will then need to enforce the provisions of Article IV GATS, which deals with increasing the participation of developing countries in international trade in services.¹³ The positive list approach of the GATS and Article IV could allow for increased

¹¹ Consider however whether the NAFTA tribunal case *United Parcel Services v. Canada Post* might apply here. The case concerns whether the right of a State to maintain state monopolies in certain sectors of business can be challenged.

¹² Note however that most electronic services fall under the enhanced service category in US and EU markets (data services) and which were deregulated in any case. However with the advance of technology, VoIP services are now just as effective as basic voice telephony services, and until VoIP is regulated in the same way as voice (being considered), third country operators could provide such services within the EU (if registered in accordance with the Authorisation Directive).

¹³ For an excellent discussion of the need to implement Article IV GATS, see the Communication from Cuba, Pakistan, Senegal, Sri Lanka, Tanzania, Uganda, Zambia and Zimbabwe on Increasing Participation of Developing Countries in International Trade in Services: Effective Implementation of Article IV GATS, S/CSS/W/131, December 2001.

participation of developing countries in services technology trade, but Article IV dealing with the Special and Differential Treatment of developing countries,¹⁴ needs to be enforced by the WTO membership as a collective, 90% of which consists of developing country members. For example, paragraph 5 Article IV discusses the desire ‘to facilitate the increased participation of developing countries in trade in services and the expansion of their service exports including *inter alia*, through the strengthening of their domestic services capacity and its efficiency and competitiveness’. Furthermore, subparagraph 1(c) of Article IV mentions better market access for developing country services exports through liberalisation in sectors and modes of supply of *export interest* to them. Subparagraph 1(b) goes on to discuss access to developed country distribution channels and information networks. Neither distribution channels nor information networks are defined in Article IV, but it would be reasonable to argue that such networks and channels would include developed country telecommunication networks, including IP-based networks. In future trade rounds, it is in such areas where the thrust of negotiating resource should apply, at least in the technology sectors. It may well be that the terms of Article IV will come to be interpreted through a future dispute settlement case in a similar way to the terms of the Reference Paper in the *Mexico-Telmex* case.

As well as developed countries having an obligation to consider modes of supply and sectors of interest to developing countries, developing countries are also afforded protection under the GATS to open markets *selectively*. For example, Article XIX GATS, which mandates successive rounds of negotiations and provides the legal basis for the current Doha Round, is also linked to the provisions of Article IV GATS. Paragraph 2 Article XIX provides for some practical examples of implementing the objectives of Article IV by mandating that (1) the process of liberalisation shall take place with due respect for national policy objectives and levels of development of Members; and (2) there shall be appropriate flexibility for developing countries to open fewer sectors, to liberalise fewer types of transactions, to extend market access in line with their development situation and to attach conditions to this access.

With the failure of the discussions at Doha, there should perhaps be further movement here. For example, in a Decision (*General Cancun Decision*) adopted by the WTO’s General Council in August 2004, the Council instructed the Committee on Trade and Development to ‘expeditiously complete the review of all the outstanding Agreement-specific proposals [on special and differential treatment] and report to the General Council, with clear recommendations for a

¹⁴ Virtually all WTO agreements have special provisions with respect to developing country members, known as *Special and Differential Treatment* terms. See the WTO report, *Implementation of Special and Differential Treatment Provisions in WTO Agreements and Decisions*, WT/COMTD/W/77.

decision . . .'.¹⁵ At the time of writing, the Doha Ministerial Declaration agreed at the Sixth Session of the WTO Ministerial Conference in Hong Kong in December 2005¹⁶ set out a number of provisions on S&D rights for LDCs including:

- providing duty-free and quota-free market access on a lasting basis, for all products (97% of products for countries unable to provide 100%) originating from all LDCs by 2008;
- ensuring that preferential rules of origin applicable to imports from LDCs are transparent and simple, and contribute to facilitating market access.

The collapse of the Doha Round has now put such provisions in doubt. We will, however, have to wait and see whether the review mentioned above will have any meaningful outcome for DCs and LDCs.¹⁷

7.3 USING THE NEW MODES OF OPERATION IN 'REVERSE'

The author mentioned above the possibility of DCs and LDCs using the new modes of operation in reverse. These new modes of operation work outside the conventional accounting settlement regime, bypassing international accounting rates and increasing the pressure on such rates to fall. To most DCs and LDCs, which are dependent on international accounting rate settlements to earn foreign currency and invest in local network infrastructure, the new modes introduced by way of the BTA of the GATS are a serious threat to revenue. How then can these modes benefit developing countries? In a paper looking at transforming economic relationships in international telecommunications,¹⁸ the ITU argues that developing country telecommunication operators need to find ways of *aggregating* their traffic to achieve economies of scale, and then terminating that traffic at cost-based rates in net-paying developed country markets, such as the United States. This could be achieved by petitioning the FCC to grant section 214 authority, and full interconnection rights, for an extension of the developing country operator's network into the United States (via points of presence in the

¹⁵ Clause 1(d), WT/L/579.

¹⁶ WT/MIN(05)/DEC, 22 December 2005.

¹⁷ In October 2004, the WTO Committee on Trade and Development did produce a report listing all the special and differential treatment provisions to be found in the WTO covered agreements for LDCs. See WT/COMTD/W/135, October 2004. The report simply lists the provisions, but makes no recommendations going forward.

¹⁸ International Telecommunications Union, 'Transforming Economic Relationships in International Telecommunications', Chairman's Report of the Seventh Regulatory Colloquium, Geneva, December 1997.

US owned by developing country operators).¹⁹ Operators, such as Singapore Telecom, have already been very successful at acting as a regional hub for other Asian operators, and VNSL in India is also playing a similar role. For such operators, terminating aggregated traffic via points of presence in developed country markets would be one example of using the new modes in reverse. Another approach is to use 'turnaround arrangements' in developed country markets through the use of calling card or country-direct services. Developing countries would also need to negotiate asymmetrical interconnection or termination charges with their developed country counterparts. Here the overall level of the charge is reduced, but the legitimate cost-based case, setting higher rates in developing countries than in developed countries to take account of higher transmission costs and reduced efficiencies, is recognised.²⁰

In addressing the Digital Divide, DCs and LDCs will also need to liberalise their home markets. The DFID report on reducing the costs of access to the internet in developing countries referred to in Chapter 1 discusses a number of possible sectors to liberalise to quickly bring down the cost of accessing the internet in the hope that internet penetration would then spread, thus addressing the Digital Divide.²¹ The sectors to target include international leased-lines, domestic leased-lines, long-distance telephony, Very Small Aperture Terminals (VSAT) connections (ISPs in Africa, for example, use satellite-based channels for incoming data, often for cost reasons aggregating outgoing data on shared International Private Leased Circuits), and internet telephony.²²

The DFID Internet Costs report (DFID report) makes clear however that liberalisation of the first three (traditionally profitable) markets often means the withdrawal of cross-subsidies to the traditionally loss-making markets of local access and calls, with consequent price rises. In recent years internet use has reduced the need for such 'rebalancing' (as lost revenues are recouped from additional internet use, up to the limits permitted by network capacity). However, the DFID report recommends that moderate local price rises are usually worth paying for the benefits of liberalisation,²³ and that permitting private VSAT connections with both-way transmission could allow major cost reductions for leased-line customers (usually the small ISPs in Africa or Asia dependent on the large incumbent telcos), especially as new lower-cost satellite offerings become available. Also the DFID report suggests that liberalising internet telephony could be particularly beneficial for both ISPs and

¹⁹ Ibid, p. 51.

²⁰ Ibid, p. 53.

²¹ See section 5 (Policy options to lower costs) of the DFID report.

²² Ibid, p. 47.

²³ The DFID report argues that some countries may want to consider special price plans for low users, who suffer the highest price rises through rebalancing. Ibid.

users,²⁴ though often initially unwelcome to incumbents. Internet telephony could provide extra traffic to ISPs who choose to offer telephony, enabling economies of scale and eventually lower internet access costs to be achieved, as well as cheaper phone calls for end users.²⁵ The DFID report argues that liberalisation of internet telephony could generate sufficient additional traffic to compensate the incumbent telco for any lost revenues.

In surveying the case study countries in Africa and Asia, the DFID report also finds that complaints are common that the ISP run by the main incumbent telco has unfair advantages over all other ISPs.²⁶ For example, the incumbent telco is in a position to apply a margin squeeze on the inputs of other competing ISPs and yet possibly (and illegally if the law is in place) allows the incumbent to cross-subsidise its own ISP downstream subsidiary (from say revenues generated through its monopoly voice business). To prevent this, accounting separation (and structural measures) introduced by NRAs may be required in enforcing the strict separation of ISPs from incumbent telco operations. Structural separation may well be the better course. Another important change would be to allow ISPs in developing countries to aggregate their TCP/IP traffic through internet exchanges (IXPs) where capacity on networks can be traded at cost prices. The creation of national or regional Internet Exchange Points (IXPs) that could aggregate traffic would also make interconnection between these IXPs and international backbone providers more attractive. Without ISPs in developing countries being able to get access and to interconnect on non-discriminatory and transparent terms with the international backbone operators who control the internet, the Digital Divide cannot be addressed. The function of the Layering Theory set out in Chapter 5 is to facilitate such access. Unfortunately, incumbent monopoly telcos often oppose the creation of IXPs.²⁷ In this regard, the Layering Theory if implemented at a national or regional level will help deal with abuse of dominant positions by incumbents, subject to suitable competition law being in place. Furthermore, the Layering Theory is dependant on OSI Layer 5–7 filtering technology and cost accounting software being available to the regulator. For most DCs/LDCs such technology may be beyond their reach unless made available through technology transfer and technical assistance from the developed world (see Chapters 8 and 10). Also, several of the DFID case studies commented on the high level or inappropriate structure of licence fees (for example, turnover-based levies). Generally licence fees should only cover necessary regulatory

²⁴ The DFID report uses the term to mean a phone-to-phone service accessed by dialling a prefix and carried over the internet.

²⁵ Ibid, note 507.

²⁶ Ibid.

²⁷ UNCTAD, *Information Economy Report*, 2005, p. xix.

costs and should not be used as a source of government revenues.²⁸ In summary, the NRA in DCs and LDCs should strive to maintain the lowest licence fees for all internet operators, and particularly for *telecentres* which serve multiple users in rural or remote areas.²⁹

7.4 RECOMMENDATION D.50 AND PACKET-SWITCHED NETWORKS

Chapter 3 introduced the ITU's Recommendation D.50 and the APEC pricing principles agreed at Cancun in Spring 2000. The present section now looks at the application of these principles and Recommendation D.50 to DCs and LDCs. As mentioned in the section above (and in Part I of this book), we are witnessing a major shift in the movement of traffic from legacy circuit-switched networks to packet-switched networks based on the TCP/IP transmission protocol set. Internet traffic will therefore be crucially important to DCs and LDCs in the decade ahead, if not immediately to selected DCs, such as Singapore, Taiwan, Malaysia, Indonesia, Korea, China, India, South Africa and the North African states. The underlying concept of directional internet traffic-based cost-sharing is that each party should bear those costs for which they are responsible. As the DFID report makes clear, this would be a valid model for parts of the world with similar levels of internet development, for example the USA and Australia or Europe. However developing country ISPs host much of their content in North America,³⁰ and route much of their domestic or regional traffic via North America. A high proportion of the traffic in both directions is therefore instigated by, and is for the benefit of, the developing country. The high prices of international private leased circuits (IPLCs) in many countries are at the heart of the

²⁸ This does not apply to permissions to use scarce resources like spectrum or telephone numbers.

²⁹ In some countries, however, the tax system may be rather inefficient, so that efficiency in the economy overall may actually be better if revenue is raised through telecoms licence fees than through the tax system. See section 5.1 of the DFID report.

³⁰ See section 2.3 of the DFID report, *supra* note 2. Often hosting skills are in North America, and hosting services there are well priced, if not free, which contrasts with high local prices and scarcity of regional links in parts of Africa and Asia. In addition, expatriates living abroad form a substantial proportion of requests for web content from servers located in the US, but hosting content is uplinked by webmasters (those who control the websites) in Asia and Africa for example. Interestingly, remittances from expatriates living abroad to the developing world are a key source of finance for developing countries, and globally have risen from US\$20 billion to nearly \$100 billion between 1983 and 2003. According to the UK's Commission for Africa report, 'Our Common Interest', remittances are now the second largest source of development finance, after FDI. See Africa Report, p. 295.

problem. As the DFID report points out: 'If both half-circuits were priced at similar levels, it might seem more reasonable to request cost-sharing – but the need for it would also be less'.³¹ Several commentators in the report suggest that reductions in the cost of links to the USA without at least corresponding reductions elsewhere would further reinforce the position of the United States as the global internet hub.³² Other ISPs in Australia or Asia, for example, view US ISPs bearing their share of international infrastructure costs as important to their own economies' chances of competitiveness, whether competition takes place in local or global markets (bearing in mind that often traffic sent between two ISPs in the same city might be redirected to a hubbing point in the US).

In short, it seems that the APEC proposals were neither primarily designed to benefit developing countries, nor likely soon to have been very beneficial to them. The principles have however raised the political profile of the mutual compensation issue, which is now likely to be taken forward on a commercial rather than a mandated basis.³³ Therefore, for developing country ISPs, nothing much will change, unless these ISPs are able to aggregate traffic at a regional level and therefore gain the necessary bargaining power to demand commercial arrangements that take into account compensation for traffic flow. The other avenue that could be explored is the WTO's Dispute Settlement Body (DSB). A conflict over charging arrangements could be referred to the WTO's DSB provided that internet services that are the subject of the dispute can be captured by the Reference Paper. This will depend to what extent in future Trade rounds Members are willing to consider internet services as falling under their existing commitments or are willing to make new commitments incorporating internet services. It will also depend on whether certain publicly available internet services can fall under the regulatory capture of the Reference Paper, as discussed in Chapter 3. Perhaps this will be an issue that will be determined by some future WTO DSB panel. As we saw in *Mexico-Telmex*, the panel came to some surprising results.³⁴

The fact remains however that most developing country governments lack the necessary resources and technical skills to frame a complaint through the WTO.³⁵

³¹ DFID report, section 2.3.

³² Ibid.

³³ Ibid.

³⁴ See Section 3.4.2.

³⁵ They could however frame a complaint as a *collective*, possibly with a regional regulator or regulatory institution, such as in Africa through the Telecommunications Regulators' Association of Southern Africa (TRASA). A collective action in telecommunications would be ground-breaking as far as WTO case law is concerned given that the first WTO case in telecommunications between the US and Mexico is so recent. As the Fourth Protocol is effectively a diplomatic agreement between nation states (and not private companies), the first port of call for an aggrieved

In fact most recent WTO complaints in the communications sector have been by the United States! For example, in the telecoms industry in general, there has been more widespread take-up of potential referrals to the WTO's Dispute Resolution Body (DSB) by the US in recent years.³⁶ A decision to go to the WTO's DSB would depend to a large extent on the value of the internet interconnection agreements in dispute, which, if according to current market research, is likely to rapidly increase.³⁷ Another important factor would be the willingness of the DSB to involve itself in areas that, some would argue, might be better handled by national regulatory authorities. However, history has proved, as in *Mexico-Telmex*, that the WTO's DSB is very happy to fill in the gaps created by instruments such as the Reference Paper. If necessary, it will even create policy that has not been agreed at the WTO's General Council, for example in the reference to cartels as being an example of an 'anti-competitive practice' as found by the WTO's panel in *Mexico-Telmex*.³⁸

developing nation ISP or backbone would be to their own governmental trade representative's office. Under the Dispute Resolution Understanding of the WTO, diplomatic negotiations would then begin (in the event of a dispute with the US) between the US Office of Trade (USTR) and the developing nation state's trade office. In the event of a dispute with the United States, for example, a collective complaint could also be framed against the USTR. WTO case law precedent does exist for collective actions, for example in the collective action brought against the EU by the US and various Latin American states in the *Bananas* case. In the light of a number of bilateral and Free Trade Agreements signed by the US and the European Communities with various DCs and LDCs, the chance of a collective action as described above remains remote.

³⁶ See, for example, the entries in Total Telecom at <http://www.totaltele.com/results.asp>: 'US slams BT over DSL access' (17 April 2000); 'US threatens to take Mexico to WTO' (4 April 2000), 'U.S. threatens South Africa's Telkom with WTO complaint' (3 April 2000), 'US threatens Japan with WTO action' (30 March 2000). Issues at local access level have even proved worthy of potential referral to the WTO. In March 2001, the EU 'sounded' possible action against Japan to the WTO over failure by the Japanese government to introduce greater competition in its telecoms market, the second largest in the world (CWI, 13 March 2001). A month later, the US said that it was seeking action by Colombia, Mexico, South Africa and Taiwan to improve compliance with trade agreements on telecommunication services or potentially face cases before the WTO (CWI, 3 April 2001).

³⁷ The internet hardware provider, Networks, estimates that more than 25% of the worldwide voice traffic will be voice-over IP by 2010. See Klaus-Jurgen Kraatz, 'Voice Over IP – A Challenge to Regulation', *International Business Lawyer*, May 2000.

³⁸ See Marsden, P., 'WTO Decides its First Competition Case, with Disappointing Results', *Competition Law Insight*, May 2004, p. 8.

7.5 CLASSIFICATION OF TELECOMMUNICATIONS SERVICES IN THE NEXT TRADE ROUND

As mentioned in Chapter 3, in a recent offer to the Doha negotiations, the United States has classified packet-switched services as *information services* (packet-switched information services) without any reference to the UNCPC coding system discussed earlier.³⁹ Under the US Telecommunication Act 1996, information services are *not* classed as telecommunication services and can therefore not be regulated as basic telecommunication services. Furthermore, VoIP services under US law are also currently classed as information services.⁴⁰ The Reference Paper only applies to basic telecommunication services. It would appear therefore that in classifying packet-switched services as information services, the US has moved the regulation of these services away from regulatory capture by the Reference Paper (with its strict interconnection obligations) and under the capture of the Annex on Telecommunications (which catches only those services that have been scheduled as specific commitments). Those DCs and LDCs considering the next trade round and schedules of commitments would be wise to consider carefully the US domestic legislative position on information services and consider whether domestic legislative changes are required to create distinctions in law between advanced and basic services in their own domestic markets, and also a new category of service, the information service. The European Commission also has separate definitions for an electronic communications service and an information service.⁴¹

The significance of classification of electronic intangibles and network-based transactions to developing countries

DC and LDC governments will also need to consider very carefully the extent (if any) of commitments to market access and national treatment given under the GATS in the Doha Round. As noted above, commitments on market access and national treatment made within any of the telecommunications sub-sectors defined in the Services Sectoral Classification List (MTN.GNS/W/120) will be binding and required to be transposed into domestic law. Particularly where the incumbent is still state-owned, increased competition resulting from liberalisation will have an immediate impact on the government's monopoly rents. At the same time, these governments will need to consider the potential for ICTs in their home markets and determine whether specific technology markets in developed countries should be targeted. This concept has already

³⁹ TN/S/O/USA, April 2003.

⁴⁰ See Section 3.3.1 on classification of telecommunication services.

⁴¹ See Chapter 5.

been mentioned above and in Chapter 3, Section 3.3.2 when discussing Business Process Outsourcing (BPO). Developing countries such as India and Costa Rica with established BPO operations submitted specific commitments for BPO within the Doha Round.⁴² Countries such as China, Vietnam and Poland, Hungary and Russia are sure to follow in future rounds. Clusters of complimentary services in the area of network-based transactions or increased commitments under CPC classification headings, such as for ‘Business Services’ (CPC 87) might be a way forward not only for DCs and LDCs to gain access to overseas technology markets, but also to liberalise service delivery within their own markets where ICTs could play an important role, for example in health services, educational services, company registration, local and national government intranets, tax, land, customs, and banking systems. By making these areas more efficient through effective use of linked databases and front-office and back-office functionality, DC and LDC governments may be in a position to attract increased FDI. Furthermore, the effect of the *US-Gambling* case (discussed in Chapter 6) is to make any restriction of Mode 1 cross-border trade in electronic services a potential violation of GATS Article XVI on market access. *US-Gambling* establishes a distinction between regulation impacting foreign suppliers of electronic services and the consumption of such services by consumers in the importing state. Restrictions on the former could be seen as a restriction on trade, whereas restrictions on the latter are viewed as being in compliance with Article XIV GATS on measures to protect public morality and to maintain public order. *US-Gambling*, for example, concerned cross-border trade in electronic gambling and betting services from Antigua into the United States. Nevertheless for DCs and LDCs who export electronic services, such as outsourcing services from India and China, *US-Gambling* provides a powerful market access precedent. The use of ICTs in development is discussed more fully in Chapter 10.

7.6 WORLD SUMMIT ON THE INFORMATION SOCIETY

In the first phase of the *World Summit on the Information Society* (WSIS) held in Geneva in 2003, one of the principal aims of which is to reduce the Digital Divide between the developed and developing worlds, various Member States of the United Nations,⁴³ including the European Communities, the US, Japan

⁴² Wunsch-Vincent, S., and McIntosh, J., *WTO, E-Commerce, and Information Technologies: From the Uruguay Round through the Doha Development Agenda*, Markle Foundation, 2004, p. 133.

⁴³ The Declaration also refers to other important development goals including the development goals of the *Millennium Declaration*, namely the eradication of

and many other developed and developing nations committed to a *Declaration of Principles* which contained three main Articles on technology transfer:⁴⁴

33. To achieve a sustainable development of the Information Society, national capability in ICT research and development should be enhanced. Furthermore, partnerships, in particular between and among developed and developing countries, including countries with economies in transition, in research and development, technology transfer, manufacturing and utilization of ICT products and services are crucial for promoting capacity building and global participation in the Information Society. The manufacture of ICTs presents a significant opportunity for creation of wealth.
40. A dynamic and enabling international environment, supportive of foreign direct investment, transfer of technology, and international cooperation, particularly in the areas of finance, debt and trade, as well as full and effective participation of developing countries in global decision-making, are vital complements to national development efforts related to ICTs. Improving global affordable connectivity would contribute significantly to the effectiveness of these development efforts.
63. We resolve to assist developing countries, LDCs and countries with economies in transition through the mobilization from all sources of financing, the provision of financial and technical assistance and by creating an environment conducive to technology transfer, consistent with the purposes of this Declaration and the Plan of Action.

One of the main objectives of the WSIS is to achieve by 2015, the following targets as set out in Article 6 WSIS *Action Plan*:⁴⁵

- a) to connect villages with ICTs and establish community access points;
- b) to connect universities, colleges, secondary schools and primary schools with ICTs;
- c) to connect scientific and research centres with ICTs;
- d) to connect public libraries, cultural centres, museums, post offices and archives with ICTs;
- e) to connect health centres and hospitals with ICTs;
- f) to connect all local and central government departments and establish websites and email addresses;
- g) to adapt all primary and secondary school curricula to meet the challenges of the Information Society, taking into account national circumstances;

extreme poverty and hunger; achievement of universal primary education; promotion of gender equality and empowerment of women; reduction of child mortality; improvement of maternal health; to combat HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and the development of global partnerships for the attainment of a more peaceful, just and prosperous world. The Declaration also refers to the sustainable development goals contained in the *Johannesburg Declaration and Plan of Implementation* and the *Monterrey Consensus*. See the World Summit on Information Society, Document WSIS-03/GENEVA/DOC/4-E, December 2003, Article 1.

⁴⁴ Ibid.

⁴⁵ *World Summit on Information Society*, Document WSIS-03/GENEVA/DOC/5-E, December 2003.

- h) to ensure that all of the world's population have access to television and radio services;
- i) to encourage the development of content and to put in place technical conditions in order to facilitate the presence and use of all world languages on the Internet;
- j) to ensure that more than half the world's inhabitants have access to ICTs within their reach.

The second phase of the WSIS took place in Tunis in November 2005. The Tunis Summit reviewed the implementation of the Geneva Action Plan and set new and more detailed goals over the period 2005–15. The Tunis Summit was to some extent overshadowed by discussion on the future governance of the internet, the current international domain name system, internet protocol addresses, and the root server system, currently being managed by ICANN, with country-specific domain names being managed through a network of worldwide internet registries also licensed by ICANN. Established in 1998 by the US government, ICANN's authority for internet governance faced challenges by the EU and a number of developing countries in the months preceding the Tunis Summit for other bodies, such as the ITU, to have a greater say in internet governance. The EU in particular called for a 'new cooperation model' for internet governance.⁴⁶ In the end, the WSIS agreed to maintain the status quo with ICANN continuing in its present role as mantle holder. However, the stage is now set for future change and it is likely that the US will have to relinquish some form of sovereignty over management of internet governance through ICANN. The WSIS agreed that:

⁴⁶ In a combined note from the UK/EU to a preparatory meeting of the WSIS on 28 September, the EU set out a new cooperation model. An extract of that model is reproduced here and asked for:

'64. Essential tasks

The new cooperation model should include the development and application of globally applicable public policy principles and provide an international government involvement at the level of principles over the following naming, numbering and addressing-related matters:

- a. Provision for a global allocation system of IP number blocks, which is equitable and efficient;
- b. Procedures for changing the root zone file, specifically for the insertion of new top level domains in the root system and changes of ccTLD managers;
- c. Establishment of contingency plans to ensure the continuity of crucial DNS functions;
- d. Establishment of an arbitration and dispute resolution mechanism based on international law in case of disputes;
- e. Rules applicable to DNS system.'

- all governments should play an equal role and have equal responsibility for internet governance while ensuring its continuing stability, security and continuity;
- nations should not be involved in decisions regarding another nation's country code top level domain (ccTLD);
- there is a need for strengthened cooperation among stakeholders for public policies for generic top level domain names (gTLDs).⁴⁷

In its *Tunis Agenda for the Information Society*,⁴⁸ the Summit specifically defined the concept of internet governance as:

34. A working definition of Internet governance is *the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet.* (emphasis added)

The Tunis Summit also agreed the creation of a new Internet Governance Forum (IGF) to be convened by the UN Secretary General that will have no oversight function on technical issues, domain name allocation or IP addressing, but is to provide a platform for discussion of public policy issues related to net governance. The IGF is expected to work closely with the ITU, often seen as being more sympathetic to developing country concerns. At the time of writing, the Government of Greece has offered to host the first meeting of the IGF in 2006. Another Tunis Summit development is the creation of a voluntary *Digital Solidarity Fund* (DSF), which to some extent was rebuffed at the Geneva Summit, but finally agreed as a voluntary arrangement at Tunis. Developed countries were keen that such a fund should be sourced from existing mechanisms. The DSF will rely on donations from civil society, private sector, local authorities and international institutions.

We saw in Sections 7.3 and 7.4 above, the issue of internet interconnectivity. So for example in Section 7.3, the discussion centred on how DCs and LDCs can make use of the New Modes of Operation *in reverse* to aggregate traffic to terminate in developed country markets. In Section 7.4, it was seen how the ITU's Recommendation D.50 might realise a more equitable cost-sharing arrangement for interconnecting TCP/IP networks between developed and developing nations (undersea fibre-optic cable, satellite and microwave links for example). In the Tunis Agenda, the WSIS clearly recognised the problem of

⁴⁷ World Summit on the Information Society hailed as a resounding success (WSIS press release) at: http://www.itu.int/wsis/newsroom/press_releases/wsis/2005/18nov.html, 18 November 2005.

⁴⁸ WSIS-05/TUNIS/DOC/6(Rev.1)-E, 18 November 2005 at section 34.

internet interconnectivity and the high costs paid by DC and LDC incumbents when interconnecting with the international backbone operators. So at section 50 Tunis Agenda, the President of the PrepCom of the Tunis Phase states that:

50. We acknowledge that there are concerns, particularly amongst developing countries, that the charges for international Internet connectivity should be better balanced to enhance access. We therefore call for the development of strategies for increasing affordable global connectivity, thereby facilitating improved and equitable access for all, by:

- a) Promoting Internet transit and interconnection costs that are commercially negotiated in a competitive environment and that should be oriented towards objective, transparent and non-discriminatory parameters, taking into account ongoing work on this subject;
- b) Setting up regional high-speed Internet backbone networks and the creation of national, sub-regional and regional Internet Exchange Points (IXPs);
- c) Recommending donor programmes and developmental financing mechanisms to consider the need to provide funding for initiatives that advance connectivity, IXPs and local content for developing countries;
- d) Encouraging ITU to continue the study of the question of the International Internet Connectivity (IIC) as a matter of urgency, and to periodically provide output for consideration and possible implementation. We also encourage other relevant institutions to address this issue;
- e) Promoting the development and growth of low-cost terminal equipment, such as individual and collective user devices, especially for use in developing countries;
- f) Encouraging Internet Service Providers (ISPs) and other parties in the commercial negotiations to adopt practices towards attainment of fair and balanced interconnectivity costs.
- g) Encouraging relevant parties to commercially negotiate reduced interconnection costs for Least Developed Countries (LDCs), taking into account the special constraints of LDCs.⁴⁹

It is interesting to note the absence of any reference to the ITU's *Recommendation D.50* within the rubric of the text. This is disappointing given that the ITU had a major role in organising the WSIS, but perhaps indicates the differing negotiating positions between the United States for example and a number of developing countries (but also including Australia) on the thorny issue of sharing international connectivity costs (discussed in Section 7.4 above). If the Digital Divide is to be effectively addressed, particularly as regards the African subcontinent, then the costs for peering and transit between internet networks will need to be carefully monitored and assessed. There is a role for the ITU in this regard. Chapter 3 of this book argues for example that international peering and transit agreements could come under

⁴⁹ WSIS-05/TUNIS/DOC/6(Rev.1)-E, 18 November 2005, section 50.

the regulatory capture of the WTO's interconnection provisions of the Reference Paper if the conditions warrant. Section 2 RP requires cost-based interconnect. The RP currently applies to basic telecommunications services, but could apply to packet-switched data services, if such services are classed as basic services (public telecommunications services). This will depend to some extent on the scheduled commitments of the relevant WTO Member.

In terms of technology transfer, the Tunis Summit also agreed the following provisions:

9. We call upon the international community to promote the transfer of technology on mutually-agreed terms, including ICTs, to adopt policies and programmes with a view to assisting developing countries to take advantage of technology in their pursuit of development through, *inter alia*, technical cooperation and the building of scientific and technological capacity in our efforts to bridge the digital and development divides.

54. We recognise that an enabling environment, at national and international levels, supportive of foreign direct investment, transfer of technology, and international cooperation, particularly in the areas of finance, debt and trade, is essential for the development of the Information Society, including for the development and diffusion of the Internet and its optimal use. In particular, the roles of the private sector and civil society as the drivers of innovation and private investment in the development of the Internet are critical. Value is added at the edges of the network in both developed and developing countries when the international and domestic policy environment encourages investment and innovation.⁵⁰

How will these targets be achieved without adequate access to technology? Clearly to achieve the targets, LDCs and DCs will require not only access to the technology of ICTs but also the ability to *innovate* around these technologies as well. To achieve these goals, LDCs and DCs will require access to information technology products, semiconductor technology, infrastructure for telecommunications networks and services, and the software to be embedded in such applications. There needs to be a commitment by developed countries to honour the commitments made under Article 66.2 TRIPS if DCs and LDCs are to receive the know-how required through appropriate technology transfer to achieve the goals set out in the Tunis Summit by 2015. Article 66.2 TRIPS and other technology transfer measures under IEL are discussed further in the next chapter (Chapter 8). One way of achieving the goals set out in the Tunis Agenda would be to incentivise the private sector through the *RTD Tax Relief* mentioned below but discussed again in Chapter 10.

We saw in Chapter 2 a number of research studies that seek to measure the Digital Divide. The Tunis Agenda also recognises the relevance of an index to measure the Digital Divide and based on the work of the *Partnership on*

⁵⁰ WSIS-05/TUNIS/DOC/6(Rev.1)-E, 18 November 2005 at sections 9 and 54.

Measuring ICT for Development,⁵¹ the Tunis Agenda at section 114 makes reference to developing a common set of core ICT indicators that will help to promote capacity building and to access the current and potential impact of ICTs on development and poverty reduction. The Tunis Agenda makes reference to an *ICT Opportunity Index* and a separate *Digital Opportunity Index* for example. In developing the RTD Tax Relief in Chapter 10, the author makes reference to a number of indices and criteria that could be used by the WTO's Working Group on Trade and Transfer of Technology (WGTT) in helping to formulate guidelines on how the RTD Tax Relief could be implemented. The remit of the WGTT is to encourage cross-border knowledge flows. The author suggests in Chapter 10 that tax relief could be provided to MNCs with corporate headquarters registered in the developed countries to incentivise the MNCs in such countries to provide beneficial technology transfer to producers in DCs and LDCs. The author suggests a sliding scale for such relief, with higher relief being provided for MNCs transferring technology to producers in LDCs and lower relief for technologies transferred to producers in DCs. In assessing the value of the relief to be given, consideration should be made of the rating of the developing country with respect to how that country measures on the *ICT Opportunity Index* and/or *Digital Opportunity Index* for example. This is discussed further in Chapter 10.

In the IT sector the WTO has worked hard to reduce both tariff and non-tariff barriers on the importation of IT products. In December 1996, the *Ministerial Declaration on Trade in Information Technology Products* (ITA) was concluded by 29 participants at the Singapore Ministerial Conference. The ITA provided for participants to completely eliminate duties on IT products covered by the Agreement by 1 January 2000. Developing country participants were granted extended periods for some products. At the time of writing, there were 63 participants in the ITA, including a number of developing countries.⁵² In research for the UN ICT Task Force,⁵³ Wunsch-Vincent

⁵¹ *The Partnership on Measuring ICT for Development* aims to set standards and to harmonise ICT statistics at the global level. It has worked to develop a core list of ICT indicators from all countries that will serve as a database on comparable statistics on the information society. See website at: <http://www.itu.int/ITU-D/ict/partnership/>, accessed December 2005.

⁵² For a complete list of countries who are signatories to the ITA see the WTO's website at: http://www.wto.org/english/tratop_e/inftec_e/itapart_e.htm (accessed 15 October 2004). The EC also stated in May 2004 that the eight new EC Member States of Cyprus, the Czech Republic, Estonia, Latvia, Lithuania, Poland, Slovakia and Slovenia are automatically signed to the EC's ITA commitments. According to the WTO, the ITA currently covers about 97% of world trade in IT products. See WTO News Items, 4 June 2004: 'ITA Membership Expands with Enlarged EC'.

⁵³ The United Nations Information and Communication Technologies (UN ICT) Task Force was formally launched on 20 November 2001 by Secretary General Kofi

cites three reasons why developing countries are reluctant to lower tariffs on IT products: (1) low volumes of trade on IT are not perceived to lead to any quantifiable advantages; (2) by entering into WTO ITA negotiations that have as their aim the reduction of tariffs on IT imports, developing countries fear a loss of revenue on such imports; and (3) if developing countries themselves are producers of IT products, such countries may want to use import tariffs to protect their own emerging IT industries from exporters elsewhere.⁵⁴ In response to such fears, Wunsch-Vincent cites an OECD study to argue that production fragmentation, the process by which MNCs outsource aspects of a production process across several geographically dispersed sites, is built on the frequent and cheap exchange of intermediary and final products. Without the lowering of IT tariffs on imports, foreign investment for outsourcing in a DC or LDC might be discouraged.⁵⁵ Another issue is the scope of coverage of the ITA. At the time of writing, the ITA covers products scheduled at the six-digit level of the Harmonized System for tariff classification (discussed in Chapter 6), as opposed to the wider four-digit level that would cover more recent innovations in product technology for the internet.⁵⁶ The ITA-II discussions were meant to address this issue by widening the scope of product coverage to include IT products important for e-commerce and TCP/IP networks and also to address issues of non-tariff barriers to trade such as certification and standardisation requirements (the subject of a separate study by the WTO's ITA Committee). India, for example, has complained about the lack of acceptance of Indian IT standards, the lack of accreditation of Indian centres that certify conformity of IT products, and restrictive visa regimes on the movement (export) of software professionals.⁵⁷ In the area of non-tariff barriers, the ITA Committee is however progressing with a study on electromagnetic compatibility and electromagnetic interference as examples of two standards issues that potentially restrict imports of IT.⁵⁸ Also at the time of writing, the Doha Work Programme at the Sixth Ministerial Conference in Hong Kong in December 2005 produced a Ministerial Declaration agreeing to the adoption of a 'Swiss Formula' setting out the coefficients to be used for the reduction of tariffs pursuant to negotiations on non-agricultural market access

Annan, with the mandate of promoting awareness, inclusive policies and innovative technological and business models, while also building public-private-civil society partnerships that would contribute to the realisation of development goals through the application of ICT.

⁵⁴ Wunsch-Vincent and McIntosh, *supra* note 42, pp. 42–3.

⁵⁵ *Ibid.*, p. 43, citing OECD Study: *Information Technology Outlook 2004*, Paris, 2004.

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*, p. 46.

⁵⁸ *Ibid.*

(NAMA).⁵⁹ The convergence on a Swiss Formula follows earlier submissions by both the US and Japan calling for different approaches on elimination or reduction of tariffs on IT products.⁶⁰ The Swiss Formula is non-linear and although final agreement on its form has not yet been reached (and might never be reached with the collapse of the Doha Round), two variants include either a limited number of negotiated coefficients or the value of each country's coefficient to be based on the tariff average of bound rates of that Member.⁶¹ This latter approach would result in multiple coefficients. Given the contentious nature of NAMA negotiations and their potential application to a quickly growing IT industry, particularly for South–South trade as indicated in the recent UNCTAD *World Investment Report 2005*, the form of the formula is likely to change further in a future round or (at the time of writing) with the potential completion of the Doha Round.

Facilitating access to ICT technologies will lead directly to improved telecommunications infrastructure and therefore indirectly to developing countries developing the necessary skills and know-how to (eventually) increase international trade in telecommunication services and electronic intangibles. This in turn will lead to increased efficiencies at the domestic level. If the goals of the *World Summit on the Information Society* are to be met, LDCs and DCs will need to take a greater role in participating in the technical standard-setting activities of the developed countries, particularly in relation to information technology.⁶² Countries such as Singapore, Korea, Taiwan, and increasingly China and India should be in a position to take such a role.⁶³ Standards that can be used to foreclose competition as a proprietary standard can give a foreign operator market power that could then foreclose competition in downstream markets. The United States, Europe and Japan have all

⁵⁹ WT/MIN(05)/DEC, Doha Ministerial Declaration, Sixth Session, Hong Kong, December 2005, para. 14.

⁶⁰ Ibid, p. 52.

⁶¹ WT/MIN(05)/DEC, Doha Ministerial Declaration, Sixth Session, Hong Kong, December 2005, Annex B, para. 6.

⁶² In the WSIS Tunis Agenda, the UN Secretary General is mandated to establish a UN Group on the Information Society to facilitate the implementation of WSIS outcomes. The plan for the creation of the Group will be presented to the Chief Executive Board of the UN consisting of the heads of the major UN agencies in April 2006. We will have to wait and see the outcome of that meeting and also the outcome of the ITU's Plenipotentiary meeting in November 2006 to see if any progress has been made on the work at WSIS Geneva and Tunis.

⁶³ For example in the area of software development, there should be no reason why software innovations should not come increasingly from developing countries. See for example the take-up of the Free and Open-Source Software Movement (FOSS) in Africa cited in UNCTAD's *E-Commerce and Development Report 2003*, p. 95.

been markets where standards of particular operators, buttressed by strong IPR protection, for example Microsoft, have proliferated, leading to market leadership. There is nothing wrong with a company gaining a strong market position through innovation and use of IPRs, but the concern for competition authorities is whether that same company is also foreclosing competition in downstream markets as a result of a proprietary standard.⁶⁴

Also the WTO's *Technical Barriers to Trade Agreement* ('TBT Agreement'), sets out provisions at Article 11 to help LDCs gain technical assistance with standards,⁶⁵ but many developing countries complain that such assistance has not been forthcoming.⁶⁶ As such, some developing countries are calling on the WTO to implement an 'early warning system' with regard to standards, and a mechanism to facilitate adjustment by developing countries to meet new standards.⁶⁷ Clearly the WTO Secretariat needs to meet this challenge if LDCs and DCs are to increase their contribution to world trade. The solution is essentially a political one.

⁶⁴ See the *Competition/IP Interface*, ed. Steven Anderman, Cambridge University Press, forthcoming 2006.

⁶⁵ For example, Article 11.2 TBT Agreement says that: 'Members shall, if requested, advise other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding the establishment of national standardizing bodies, and participation in the international standardizing bodies, and shall encourage their national standardizing bodies to do likewise'.

⁶⁶ WT/WGTTT/W/6, p. 3.

⁶⁷ Ibid, para. (v) p. 3.

8. Technology transfer to developing countries*

The institution that most changes our lives we least understand, or more correctly, seek most elaborately to misunderstand. That is the modern corporation.

John Kenneth Galbraith, *The Age of Uncertainty*
(Houghton Mifflin Company, 1977)

8.1 INTRODUCTION

In the previous chapter, the author highlighted the ways in which developing and least developed countries could use economic law to achieve better access to telecommunication markets in the developed world and help close the Digital Divide. However, to gain access to such markets, many of these DCs and LDCs will need to improve access to technological resources at home to facilitate innovation and the development of technological products that would be suitable for markets for export. To do this, gaining access to the relevant technology through effective technology transfer agreements is a crucial first step.

There is no doubt that since World War II, licences and other forms of technology transfer agreements have fulfilled technological needs that could not have been met by local technical and scientific capabilities. The aim of this chapter is to look at the competition implications for producers in developing and newly developed economies in licensing-in technology or through some form of Foreign Direct Investment (FDI) from the developed world or other parts of the global economy with the aim of stimulating domestic production or with the aim of using such technology as inputs into local manufacturing process, and creating new outputs for export. FDI is moving into services, but its relationship with technology transfer, particularly in developing countries, has always been complex.¹ As a recent UNCTAD report stresses: ‘As

* A version of this chapter is to be published in the *Competition/Intellectual Property Law Interface* (ed. S. Anderman), Cambridge University Press, forthcoming 2007.

¹ For example, the OECD-sponsored *Multilateral Agreement on Investment*

commercial enterprises, TNCs² in principle do not have an interest in transferring knowledge to and supporting innovation in foreign affiliates beyond what is needed for the production process or product in questions. Developing countries therefore cannot expect that, by simply opening their doors to FDI, TNCs will transform their technological base.³

This chapter will discuss FDI and technology transfer, but its main thrust will be to consider the available regulatory mechanisms that can increase the *bargaining power* of local producers when negotiating for technology transfer as well as discussing in outline some provisions on technology transfer that can be found in International Investment Agreements/Bilateral Trade Agreements (discussed in more detail in Chapter 9), and in WTO covered agreements, particularly the TRIPS. The concept underlying the thematic discussion is that the market for technology is imperfect, and that the Small and Medium Sized Enterprises (SMEs) in developing countries are in a disadvantageous position vis-à-vis suppliers often located in the developed world, although this position is fast changing as regards some countries, such as Singapore, China (including Hong Kong) and India, as described in the recent UNCTAD, *World Investment Report 2005*.⁴ However, the position for many DCs and LDCs remains the same.

Much discussion on technology transfer has tended to focus on the transfer process itself, but not so much on the host policy environment's role in facilitating absorption and *spillover* of technology,⁵ once the technology has been transferred. For such countries, how then can the technology transfer package be drafted to improve the recipients' position and therefore the conditions under which technology is to be transferred? What relevance do movements, such as *Free and Open-Source Software* movement, have for developing countries as regards technology transfer? Also, what relevance do the recent talks at the *World Summit on the Information Society* (WSIS) mentioned in the previous chapter have for technology transfer to developing countries? This chapter discusses these issues and concludes with some recommendations going forward.

(MAI), which at its heart placed significance on protection of foreign investment and market access as incentives to stimulate the free flow of FDI into developing countries (by removing all impediments to FDI), was rejected by many developing countries. For a further discussion, see Chapter 13, 'Competition Policy and the WTO' by V.N. Balasubramanyam and C. Elliott in *The WTO and Developing Countries*, edited by Homi Katrak and Roger Strange, Palgrave Macmillan, 2004.

² Transnational Companies, in this chapter referred to throughout as Multinational Corporations (MNCs).

³ UNCTAD, *Transfer of Technology*, UNCTAD/ITE/IIT/28, 2001, p. 92.

⁴ UNCTAD *World Investment Report*, 2005, chapter 1.

⁵ Discussed later in this chapter at Section 8.3.3, entitled 'Spillover'.

8.2 THE POSITION OF DEVELOPING COUNTRIES

‘Technology transfer has been, and will continue to be, one of the main mechanisms through which developing countries may advance in their industrialization processes’.⁶ Correa’s point is well understood and documented in various forms in a large body of existing literature on technology transfer and developing countries.⁷ In many ways, technology encapsulates both theoretical and empirical techniques. Although technology can be envisaged as a material good in the form of machines and products in tangible form, the concept also covers intangibles in the form of services and know-how. As Muchlinski argues:

The first assumption underlying the market for commercial technology is that such technology should be treated as the private property of its owner and not as a public good capable of general use commoditized through the application of intellectual property rights, which give the owner a legally determined monopoly over the use and disposal of that right, or by way of protected and restrictive contractual transfer as in the case of non-patentable know-how that is secret.⁸

More than anything in the conventional package associated with technology transfer,⁹ it is the intangible component often referred to as ‘know-how’ that is crucial for the creation of a technological base. However, what does technology transfer actually mean in a legal sense?

The now defunct UNCTAD draft *International Code on the Transfer of Technology* (the draft ToT Code) in its definition of ‘technology transfer’ described technology as ‘systematic knowledge for the manufacture of a product, for the application of a process or for the rendering of a service, which does not extend to the transactions involving the mere sale or mere lease of goods’.¹⁰ The definition therefore excludes goods for hire or sale, but seems

⁶ Correa, Carlos M., *Intellectual Property Rights, the WTO and Developing Countries*, Zed Books, 2000, p. 31.

⁷ See for example the extensive literature survey compiled by Saggi, Kamal, *Trade, Foreign Direct Investment, and International Technology Transfer: A Survey*, World Bank, 2000.

⁸ Muchlinski, P., *Multinational Enterprises and the Law*, Blackwell Publishers, 1999, p. 427.

⁹ For example, licences for patents and trademarks, supply of industrial technology, technical-industrial corporation, specialised technical services, and marketing rights etc.

¹⁰ The draft ToT Code was abandoned due to disagreement between developing and developed nations as to the emphasis placed on various clauses within the code, for example on the choice of applicable law and settlement of disputes. Many DCs and LDCs wanted a restrictive regime on choice of law in technology transfer agreements, for example in choosing the host country’s local law as opposed to the investing country’s law. By contrast, many developed countries wanted to preserve the parties’ freedom to choose.

to refer specifically to the knowledge that goes into the creation and provision of a product or service (and not the finished product or service).¹¹ The United Nations' own definition of the different components that constitute technology transfer can be summarised as four key aspects: *technoware*, or the physical objects or equipment; *humanware*, which includes skills and human aspects of technology management and learning; *infloware*, including designs, blueprints which constitute the document-embodied knowledge on information and technology; and *orgaware*, which covers production arrangement linkages within which the technology is operated.¹² The UN definition may appear imprecise for the purposes of defining technology transfer within legal documentation, but it nevertheless gives a good snapshot as to what technology transfer should encapsulate.¹³ Developing countries are also concerned that too narrow a definition of technology transfer would exclude the relevant factors and processes that hinder their access to technology and that any definition should be 'inclusive and *inter alia* comprise the processes and factors relating to the access and use of technology'.¹⁴ For example, access to information communications technology will be crucial in implementing the goals set out in the Declaration and Action Plan agreed at the *World Summit on the Information Society* (WSIS) in Geneva 2003, discussed later in this chapter.¹⁵

Developing countries were also against arbitration for settlement of disputes, preferring instead settlement based on the rules of the technology importing state. In short, developing countries were looking for clauses that would deal effectively with economic regulation and development, whereas developed countries were more interested in clauses that would promote effective competition. See UNCTAD, 'International code on the transfer of technology', chapter 1, para. 1.2, 1985. See also Muchlinski, *supra* note 8, p. 445.

¹¹ UNCTAD, *Transfer of Technology Report*, UNCTAD/ITE/IIT/28, 2001, p. 6.

¹² UN ESCAP, 1989. Cited by Ajay Mathur, Preety M. Bhandari and Sharmila B. Srikanth in 'Effective Technology Transfer: Issues and Options' in *Positive Measures for Technology Transfer under the Climate Change Convention* (ed. Tim Forsyth), The Royal Institute of International Affairs, 1997.

¹³ The UNCTAD draft ToT Code provides a more detailed list of the elements of technology transfer: '(a) The assignment, sale and licensing of all forms of industrial property, except for trade marks, service marks and trade names when they are not part of transfer of technology transactions; (b) The provision of know-how and technical expertise in the form of feasibility studies, plans, diagrams, models, instructions, guides, formulae, basic or detailed engineering designs, specifications and equipment for training, services personnel training; (c) The provision of technological knowledge necessary for the installation, operation and functioning of plant and equipment, and turnkey projects; (d) The provision of technological knowledge necessary to acquire, install and use machinery, equipment, intermediate goods and/or raw materials which have been acquired by purchase, lease or other means; (e) The provision of technological contents of industrial and technical co-operation arrangements'.

¹⁴ WT/WGTT/5, para. 19.

¹⁵ 'Technology Transfer at the Multilateral Level'.

The way in which developing countries acquire technology transfer can also be summarised in three main categories: (1) acquisition of skills and know-how; (2) access to document-embodied knowledge and licensing; and (3) acquisition by importation and business partnerships.¹⁶ However acquiring technology is one factor, but acquiring the most *appropriate* technology quite another. To choose appropriate technology, producers in the developing world need to be intimate with the goals of their intended production processes. These goals will include not only manufacturing outputs, but also the manufacturing processes to be used and how the outputs are to be distributed amongst the local population.¹⁷ The bulk of this chapter is devoted to discussing the third of these categories, although (1) and (2) are covered in brief initially.

8.2.1 Acquisition of Skills and Know-how

UNCTAD's *World Investment Report* (2004) has highlighted the shift in FDI towards the services sector.¹⁸ The *World Investment Report* (2005) indicates the growing power of TNCs and the internationalisation of R&D. Trade in services, particularly through FDI (commercial presence), can serve as a means of affecting technology transfer, for example in creating a subsidiary or joint venture in the host country either to provide a service in relation to own production or to introduce a new service or compete with existing services in the local market, and/or to be linked to a licensing contract.¹⁹ MNCs in the services sector can bring both hard technology (plant, equipment, industrial processes), and soft technology (knowledge information, expertise, skills in organisation, management and marketing).²⁰ MNCs also *outsourcing/offshoring* (discussed below) part of their production to DCs or LDCs will want to ensure the quality of the outputs provided by sub-contractors and may transfer part of their knowledge and methods together with specifications, designs and drawing, although this will depend on the likelihood of enforcing confidentiality provisions, and also on the effective enforcement of IPRs in the host country.²¹ IPR protection is important: In a World Bank report, Smarzynska, argues that empirical analysis confirms the hypotheses that weak protection of IPR has a significant impact on the composition of FDI inflows for two reasons: (a) it deters foreign investors in five technology-intensive sectors: drugs, cosmetics and healthcare products, chemicals, machinery

¹⁶ IP/IC/W/398.

¹⁷ Eckaus R., 'Appropriate Technologies for Developing Countries', National Academy of Sciences, Washington DC, 1977, p. 10

¹⁸ UNCTAD, *World Investment Report*, 2004, p. xx

¹⁹ IP/IC/W/398, para. 30.

²⁰ UNCTAD, *World Investment Report*, 2004, p. xxiii.

²¹ IP/C/W/398, para. 35.

and equipment, and electrical equipment; and (b) encourages foreign investors to set up distribution facilities rather than to engage in local production.²²

Offshoring of services can either be internal through the establishment of foreign affiliates (sometimes called ‘captive offshoring’); or by outsourcing to a third party service provider (‘offshore outsourcing’). For reasons mentioned above, MNCs will often prefer the captive approach so as to maintain control and confidentiality. The effect of this on technology transfer is uncertain. UNCTAD states that although some evidence exists that services FDI does provide transfer of skills, expertise and knowledge, data on the overall extent of such transfers is scarce.²³ Nevertheless developing countries stand to gain from the international outsourcing market. In 2001, Ireland, India, Canada and Israel, in that order, accounted for 70% of the total market for offshored services, mostly in software development and other IT-enabled services.²⁴ Furthermore, the share of developing countries in offshore projects is increasing: between 2002 and 2003, the total number of offshore projects in developing countries rose from 39% to 52%. South and South-East Asian developing countries have taken the lion’s share of service offshoring projects, particularly in the area of IT.²⁵

Although we see growth of selected offshore services to a small group of DCs, particularly in IT services, there is a danger that this trend could be jeopardised if for some reason developed countries were at some stage to introduce *tariff peaks* on imports of technology-related products. Tariff peaks apply mainly to goods and not services, and the application of tariff peaks to electronic products is uncertain. In future years, much will depend on whether electronic products (electronic intangibles) are classed as services under the GATS or as goods under the GATT.²⁶ In the recent Sixth Ministerial WTO conference

²² Smarzynska, K. Beata, *Composition of Foreign Direct Investment and Protection of Intellectual Property Rights: Evidence from Transition Economies*, The World Bank, 2002, p. 2.

²³ UNCTAD, *World Investment Report*, 2004, p. xxiii.

²⁴ *Ibid.*, p. xxvii.

²⁵ *Ibid.*, p. xxvii.

²⁶ In looking at the classification issue, a certain category of electronic intangibles could fall to be classified under either the GATS or the GATT. This includes a narrow range of media products that can be imported under both HS classifications (the classification system for trade in goods under the GATT), and/or downloaded over the internet (and hence classified as a service under the GATS system of classification W/120). The WTO has estimated such trade in intangibles to amount to approximately 1% of total merchandise trade and 1% of total duties collected worldwide. This would not include the vast majority of services, all media/information products that *never did* cross borders in physical formats, being clearly under the GATS (most media/entertainment forms that have traditionally been regarded as services: broadcast TV programming, radio programming), such trade amounting to approximately 99% of trading merchandise, and more

in Hong Kong in December 2005, ministers agreed, as part of the Doha Round negotiations on market access for non-agricultural products, to reduce or as appropriate eliminate tariffs, including the reduction or elimination of tariff peaks, high tariffs and tariff escalation, in particular on products of export interest to developing countries.²⁷ In recent years, this issue has been a bone of contention between the US, which would prefer a GATT classification, and the European Communities, which would prefer a classification under the GATS.²⁸ If electronic products were to be classed as goods, then the very success that certain developing countries such as India, Singapore, Taiwan, China (including the Special Economic Zone of Hong Kong) have had in exporting such goods could be endangered by the imposition of tariff peaks on certain product lines classed as 'sensitive' by importing countries, particularly the *Quad* countries of Canada, the EU, Japan and the United States. This danger is not illusory as the Quad has a history of applying tariff peaks to products that are of export interest to developing countries, particularly in the area of agricultural staple food products, such as sugar, cereals and fish; tobacco and certain alcoholic beverages; fruits and vegetables; food industry products with a high sugar content, clothing and footwear.²⁹ At one stage, around 1077 tariff lines out of a total of 5,032 at the six-digit level of the Harmonized System (HS) faced an MFN tariff of more than 15% in at least one member of the Quad. Tariff rates could be as high as 343% in Canada, 252% in the EU, 171% in Japan and 121% in the United States.³⁰ Tariff peaks already create strong disincentives for LDCs/DCs in moving towards processing raw materials and agricultural commodities and higher value added manufacturing products. They reduce the gains from trade, hinder efforts to technologically upgrade, and restrict a country's financial capacity to import technology.³¹ If applied to electronic products, say as an indirect consequence of the WTO membership at some future stage agreeing to classify electronic products as goods rather than services,³² then the

than 99% of duties collected worldwide. See presentation by Lee Tuthill, trade in services division, WTO 'WTO Implications of Classification Issues' at: http://www.wto.org/english/tratop_e/devel_e/sem05_e/presentation_tuthill.ppt, accessed October 2004. Chapter 6 looks at the classification issue in detail.

²⁷ (WT/MIN(05)/DEC, 22 December 2005, para 14.

²⁸ WT/GC/W/497.

²⁹ Hoekman, B., Ng, F. and Olarreaga, M., *Tariff Peaks in the Quad and Least Developed Country Exports*, World Bank, February 2001.

³⁰ *Ibid.*, p. 1.

³¹ WT/WGTTT/M/1, para. 41.

³² Or potentially as a long-shot, the WTO's Dispute Resolution Body ruling on the point, although it could be argued that the DSB should be used to interpret the WTO Members' *collective intent* rather than forcing governments to legislate because they could not agree on a common approach. For a more detailed discussion, see Drake, W.,

gains already made by certain DCs in the IT sector could in time be severely curtailed.³³

8.2.2 Access to Document-embodied Knowledge

One of the main problems that DCs and LDCs have is in easily identifying the particular innovations they need amongst the myriad of information sources that are available, and particularly with information available on the internet. For example, in the area of patents, with countries that have a patent system in place, information on technology will generally be available from the patent database (if available), which will hold details of a description of the patent, a list of claims, the drawings, and an abstract of the names and contact details of the rights holders. So firms wishing to acquire the technology covered by the patent can contact the patent holder with a view to seeking a licence, or may try to imitate the patent if the innovation has already entered the public domain. Article 7 TRIPS Agreement calls for the protection and enforcement of intellectual property rights, but it also addresses 'the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge'. In an ideal world, an effective patent system will allow for the dissemination of technology as set out in Article 7. However, disclosure of patent information alone does not permit developing countries with weak technological capabilities to innovate around existing patents. One solution to the problem would be to require MNCs, as part of an FDI or licensing strategy, to locate the production of goods and services that embody patents in the *local* market and put in place the necessary training and partnership programmes that would increase the chance that *spillover* (discussed later) and diffusion will take place. Many LDCs/DCs are not in a position to achieve this and would require both technical and financial assistance from UNCTAD, World Association of Investment Promotion Agencies, and the World Bank.³⁴

and Nicolaidis, K., chapter 14, 'Global Electronic Commerce and GATS: The Millennium Round and Beyond' in *GATS 2000 New Directions in Trade in Services* (eds Sauve, P., and Stern, R.) Brookings Institution Press, 2000, p. 410.

³³ Presently WTO members have agreed a *moratorium* on the use of customs duties for electronic transmissions. The moratorium was still in place at the last meeting of the General Council of the WTO in 2003. The moratorium was again confirmed at the Sixth Ministerial WTO Conference in Hong Kong in 2005 (WT/MIN(05)/DEC). This moratorium is not legally binding and it remains open to WTO Members to agree to impose customs duties on electronic intangibles at some point in the future, WT/GC/W/509.

³⁴ See the excellent speech by Lynn Mytelka, Director INTECH to the first session of the WTO Working Group on Trade and Transfer of Technology, April 2002, WT/WGTTT/M/1, para. 55(a).

Furthermore in negotiating the license(s) for the technology transfer package, developing country producers will often be at a disadvantage in terms of bargaining position. Local producers will want to negotiate licence clauses that are not restrictive and that allow the licensee some flexibility. MNCs, however, may try to abuse their position of market influence or dominance in negotiating technology transfer clauses that are unfair. Articles 8.2 and 40 of the TRIPS Agreement attempt to redress this imbalance, provided such provisions have been enacted into local law. For example, Article 8.2 TRIPS allows for measures to prevent the abuse of intellectual property rights by right holders or resort to practices that unreasonably restrain trade or adversely affect the international transfer of technology. Similarly Article 40 TRIPS allows for Members to adopt appropriate measures into national law to prevent or control such abusive practices, which may include for example exclusive grant-back conditions, conditions preventing challenges to validity and coercive package licensing.³⁵ However, the wording of Article 40.2 is restrictive in terms of what states can do to stop anti-competitive practices. Assessment must be made on a case-by-case basis and follow the *rule of reason* in that any practice must (a) constitute an abuse of IPRs; and (b) have an adverse effect on competition in the relevant market. Unlike the failed UNCTAD code on transfer of technology, Article 40.2 TRIPS is silent on restricting anti-competitive practices on developmental grounds and emphasises only pro-competitive grounds.³⁶

8.2.3 Acquisition by Importation and Business Partnerships

Although licensing, as introduced above, is an important element of technology transfer, the importation of machines and intermediate goods is also one of the primary sources of technology transfer to DCs/LDCs: innovation is appropriated through imports, allowing firms to bypass the need for long-term investment in research or equipment-testing capabilities. However, there are dangers in this approach, for example when used machinery and equipment are not formally exported by manufacturers and therefore not accompanied with the relevant know-how or unpatented information required to operate the machine, or where the imported technology is just not ‘up to the job’. Mytelka cites the example of LDCs/DCs attempting to diversify exports by developing their fishing industries, and importing used refrigerator trucks whose compressors no longer work, to transport fish. Clearly this has important implications for sanitary and

³⁵ Specific issues in relation to technology transfer licensing are discussed in more detail later in this chapter at Section 8.4: ‘Unbundling the IPR Package’.

³⁶ Correa, C., ‘Can the TRIPS Agreement Foster Technology Transfer to Developing Countries?’ in *International Public Goods and Transfer of Technology: Under a Globalized Intellectual Property Regime* (eds Maskus, K., and Reichman, J.), Cambridge University Press, 2005, pp. 236–7.

phytosanitary standards.³⁷ Notwithstanding the provisions of Article 10 WTO *Agreement on the Application of Sanitary and Phytosanitary Measures*, which provides special and differential treatment to LDCs/DCs, particularly longer time frames for compliance with sanitary and phytosanitary standards on products of interest to DCs so as to maintain opportunities for their exports, DCs without access to the appropriate technology will fall foul of Article 5 of the same agreement, which lays down for WTO Members provisions for the assessment of risk and determination of the appropriate level of sanitary or phytosanitary protection.

WTO provisions also allow DCs and LDCs to seek reductions in tariffs and the removal of unjustified non-tariff barriers, to obtain access to technological goods by DC/LDC producers, in particular, the acquisition of environmentally sound technologies (ESTs) and pollution control and measurement equipment. For example, paragraph 31(iii) *Doha Ministerial Declaration* deals with the elimination/reduction of tariff and non-tariff barriers to environmental goods and services.³⁸ The transfer of environmentally sound technologies is addressed in *Agenda 21* (Chapter 34),³⁹ the *Action Plan of the World Summit on Sustainable Development*, to which all WTO Members have committed themselves, as well as in several Multilateral Environmental Agreements, where Members have adopted obligations to phase out the use of certain substances or technologies.⁴⁰ However, although Chapter 34 of *Agenda 21* recognises the need for favourable access and transfer of ESTs to DCs/LDCs, little has been done to implement it.⁴¹ The TRIPS Agreement has reinforced the power of private parties to control the use and eventual transfer of ESTs, allowing private parties to retain their technologies under patent or protection of ‘undisclosed information’, or set high royalties for access (Correa, 2000).⁴² Correa cites the example of access by the Indian government to chlorofluorocarbons (CFCs) technology. In this well cited example, the Indian government tried to access HFC 134 A, recognised as the best replacement for certain CFCs, but because the technology was covered by patents and trade secrets, the companies that possessed them were unwilling to transfer the technology without majority control over the ownership of the Indian company that would take receipt.⁴³

³⁷ Supra note 18, para. 43.

³⁸ WT/MIN(01)/DEC/1, November 2001.

³⁹ Chapter 34, also WT/MIN(01)/DEC/1, 20 November 2001 includes detailed provisions on actions to be undertaken to support and promote the access to and use of EST, including on concessional and preferential terms.

⁴⁰ WT/WGTTT/W/5, p. 10.

⁴¹ ‘Agenda 21’, a *Programme of Action for Sustainable Development*, was approved by the United Nations Conference on Environment and Development, also known as the ‘Earth Summit’, held in Rio de Janeiro, 1992.

⁴² Correa, supra note 6, p. 33.

⁴³ Ibid.

Besides importation, *business partnerships* are also a major source of technology transfer, including FDI, Build Operate Transfer (BOT) agreements, sub-contracting, licensing and franchising. There has been much discussion of FDI in recent years. For example, UNCTAD's *World Investment Report* (2004) focuses on the shift to services in world trade and the role that FDI will play in that shift. According to the 2004 report, although global inflows of FDI declined in 2003 for the third year in a row, the prospects for FDI look to improve, particularly in Asia, and in developing countries, which experienced a growth of 9% in 2003, rising to \$172 billion overall.⁴⁴ In terms of law, there were 244 changes in laws and regulations affecting FDI in 2003, 220 of which led to further liberalisation.⁴⁵ The *World Investment Report* (2005) shows increased levels of FDI to developing countries, which rose by 40% in 2004.⁴⁶ As such, developing countries' share of FDI inflows reached 36%, according to UNCTAD, the highest since 1997. FDI is discussed in more detail in the next section.

8.3 FOREIGN DIRECT INVESTMENT

FDI can be defined as the act of establishing or acquiring a foreign subsidiary (foreign affiliate) over which the investing firm (parent) has substantial management control.⁴⁷ FDI is generally financed through various measures including intra-company loans, equity capital or through reinvested earnings.⁴⁸ Firms that engage in FDI operate in more than one country and are MNCs. Although UNCTAD's 2004 and 2005 reports paint a favourable picture as regards FDI in-flow into developing countries, only a select group of DCs are actually receiving this investment: The majority lose out. In the last ten years, although global FDI figures have increased by a factor of almost five, only 0.5% of global FDI flows have been invested in 49 LDCs.⁴⁹ In terms of global R&D expenditure, the share of developing countries is estimated to have fallen from nearly 6% in 1980 to nearly 4% in the early 1990s,⁵⁰ notwithstanding

⁴⁴ UNCTAD, *World Investment Report*, 2004.

⁴⁵ *Ibid*, overview section.

⁴⁶ UNCTAD, *World Investment Report*, 2005, p. 7.

⁴⁷ Maskus, K., 'The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer', *Duke Journal of Comparative and International Law*, 9 (109), 1998, p. 7.

⁴⁸ UNCTAD, *World Investment Report*, 2005, p. 10.

⁴⁹ IP/C/W/398 at p. 4.

⁵⁰ According to UNIDO's *World Industrial Development Report*, 2002/03, p. 36, the share of developing countries in world R&D expenditure financed by productive enterprises was 5% in 1998.

substantial increases in R&D expenditure in Korea and Chinese Taipei.⁵¹ UNIDO's *World Industrial Development Report* (UNIDO, 2002/3) also highlights that upper-middle-income DCs accounted for almost 90% of total enterprise-financed R&D expenditures by developing countries in 1998: Korea accounted for 53%, Chinese Taipei 14%, Brazil 12%, and China 6%.⁵² In the lowest ranked 30 developing countries, no such expenditure was registered.⁵³ Furthermore, R&D expenditure by foreign affiliates in developing countries is focused on countries such as Brazil, Mexico, Chinese Taipei and Singapore.⁵⁴ It is anticipated that the decentralisation of R&D activity by MNCs will likely continue to be focused on a small number of DCs. For example, in 2003, the top ten recipients for FDI in Asia were headed by China, Hong Kong (China), Singapore, India and the Republic of Korea, in that order.⁵⁵ In 2004, the position is similar, with both China and India accounting for nearly half of the total number of FDI projects in developing countries.⁵⁶ FDI and its relationship to human rights (specifically the Right to Development), particularly the negative effects of FDI, are discussed in detail in Chapter 10. In this chapter, the author focuses the discussion on FDI in the context of technology transfer.

8.3.1 FDI-Internalised/Externalised Transfers

When examining MNC involvement in technology transfer in DCs/LDCs, there is also a need to distinguish between *internalised* and *externalised* transfers.⁵⁷ An internalised transfer takes place between a parent and its subsidiary, whereby the parent has a controlling share of the subsidiary in terms of share ownership. By contrast, an external transfer takes place between legal entities where the relationship is dictated by contract, including joint venture, licensing, technical cooperation agreements etc. In choosing between internalised and externalised transfers, the MNC will often balance issues that apply to rent-extracting potential and the transaction costs of the transfer with host country characteristics and

⁵¹ Kumar, N., *Technology Generation and Technology Transfers in the World Economy: Recent Trends and Implications for Developing Countries*, Institute for New Technologies Discussion Paper: 2, Maastricht: United Nations University, 1997, pp. 10–11.

⁵² China became the world's largest FDI recipient in 2003, overtaking the US, traditionally the largest recipient. In 2003, FDI flows to South-East Asia rose by 27% to \$19 billion (UNCTAD, *World Investment Report*, 2004, p. xix).

⁵³ *Ibid.*, footnote 11, p. 6.

⁵⁴ UNCTAD, *World Investment Report*, 1999, p. 218.

⁵⁵ *Ibid.*, p. 50.

⁵⁶ UNCTAD, *World Investment Report*, 2005, p. 10.

⁵⁷ Chen, E.K.Y., *Introduction: Transnational Corporations and Technology Transfer to Developing Countries*, The United Nations Library on Transactional Corporations, vol. 18, Routledge, 1994, p. 10.

regulatory policies.⁵⁸ Internalised modes of transfer of technology tend to dominate with relatively novel technologies that are subject to quick change, such as information communications technologies (ICTs), whereas externalised modes of transfer are preferred in the case of more mature, standardised technologies.⁵⁹ The *absorption factor* of a host country, that is, the ability to absorb the transfer of technology, is also a determining issue in choosing between an external and internal transfer. So where there is a limitation on technological capability, an internalised transfer will often be preferred. Also host country regulatory policies, particularly, the IPR regime, will have a direct bearing on mode of transfer. Thus, while Singapore has traditionally been mentioned as an example of an 'internalisation-oriented' approach that tends to rely on the acquisition of foreign technology through FDI, Korea's approach has been through licensing and the import of capital goods in order to facilitate the development of domestic technological capability and to minimise foreign ownership of domestic assets.⁶⁰ Likewise, Japan is often cited as an example of a country that has been able to restrict foreign investment but still obtain the technology required for industrialisation through a predetermined policy of licensing.⁶¹ Japan was able to *unbundle* the technology transfer package, extracting the rights that were most suitable.⁶²

The neighbouring country of Singapore also has a fast-developing regulatory regime and the soon to be introduced amendments to IPR, competition and copyright legislation could continue to encourage more internal transfers into Singaporean foreign affiliates, as MNCs use Singapore as a hub for the re-export of technology into the Asia-Pacific region. For example, UNCTAD's *World Investment Report* (2004) lists Singapore as top of the table in terms of FDI *outflow* as a percentage of gross-fixed capital formation.⁶³ This perhaps continues a general trend that internalised transfers of technology by MNCs have recently gained in significance relative to externalised transfers.⁶⁴ Since

⁵⁸ Ibid, p. 11.

⁵⁹ UNCTAD, *World Investment Report*, 1999, p. 204.

⁶⁰ UNIDO, *World Industrial Development Report*, 2002/2003, p. 139. Further discussion of technology transfer policies in South-East Asia can be found in L. Westphal, 'Technology Strategies for Economic Development' in *Economics of Innovation and New Technology*, 11(4-5), August-October 2002, pp. 275-320.

⁶¹ Welch, S.L., 'The Technology Transfer Process in Foreign Licensing Arrangements', chapter 17, *The Economics of Communication and Information*, Edward Elgar, 1996, p. 156.

⁶² Unbundling is discussed in more detail later in this chapter in Section 8.4.

⁶³ See table 1.10, UNCTAD, *World Investment Report*, 2004, p. 19.

⁶⁴ Correa, C., 'Emerging Trends: New Patterns of Technology Transfer', in Patel, S., Roffe, P. and Yusuf, A. (eds), *The International Transfer of Technology: The Origins and Aftermath of the United Nations Negotiations on a Draft Code of Conduct*, Kluwer Law International, The Hague, 2000 (hereafter 'Correa 2005') pp. 268-70.

the mid-1980s royalties and technology fees received by MNCs in the US, Germany and the UK from their foreign affiliates represent an increasing share of the total technology payments received by MNCs.⁶⁵ Borga and Zeile find that during the period 1996–99, exports of intermediate inputs by US parents to their foreign affiliates increased 40-fold, and the share of intra-firm exports of intermediate products in US total merchandise exports increased from 8.5% to 14.7% during the same period.⁶⁶ Similarly, FDI in China rose tenfold between 1990 and 1995, and Malaysia, Indonesia and Thailand have also received rising inward FDI flows.⁶⁷ In the 1990s, Thailand's investment abroad rose sharply and Singapore became a significant supplier of FDI itself.

The internalisation approach through FDI may, however, be limiting in terms of *diffusion* of know-how into the local domestic market. In a recent WTO paper, the WTO *Working Group on Trade and Investment* (WGTI) argue that 'While FDI may be efficient in respect of the transfer of operational technology, its contribution to a process of deepening of local innovative capabilities tends to be limited'.⁶⁸ Maskus also makes the point that if the links to other economic sectors are weak, FDI may operate in enclaves with limited *spillovers*⁶⁹ into technologies adopted and wages earned by local firms and workers.⁷⁰ In an enclave situation where neither products nor technologies have much in common with local firms, there may be little scope for learning and spillovers may not materialise.⁷¹ From this perspective, the disadvantage of internalised transfers of technology resides in the fact that the transfer of operational 'know-how' often is not accompanied by a transfer of 'know-why' and that the transferred technology may be suited to a country's static endowments but not to its dynamic endowments.⁷² The WGTI goes on to argue that externalised transfer of technology may provide for greater scope in upgrading local technological capability on condition that the local market is able to absorb such know-how, for example in having the requisite domestic skills and a competitive environment that facilitates technological learning.⁷³ Furthermore, local markets that have the technological capability to use

⁶⁵ Kumar, *supra* note 51, pp. 26–7.

⁶⁶ Borga, M. and Zeile, W.J., 'International Fragmentation of Production and the Intrafirm Trade of US Multinational Companies', 2003, Bureau of Economic Analysis Working Paper, WP 2004–02.

⁶⁷ Maskus, *supra* note 47, p. 4.

⁶⁸ WT/WGTI/W/65.

⁶⁹ This concept is discussed in more detail later in this chapter in Section 8.3.3 on Spillovers.

⁷⁰ Maskus, *supra* note 47, p. 20.

⁷¹ WT/WGTI/W/65, para. 64.

⁷² WT/WGTI/W/136, para. 20.

⁷³ *Ibid.*

foreign technology but find that they are unable to ‘unbundle’ the package of assets transferred by way of internal transfer, will incur greater costs in acquiring technology than by way of externalised transfer.⁷⁴

By contrast, Moran argues that FDI involving internalised transfers *is* the best way forward. He argues that ‘domestic content, joint venture, and technology-sharing requirements create inefficiencies that slow growth, and generate, in many cases, a negative net contribution to host country welfare (especially if they are backed by trade protection or other kinds of market exclusivity)’.⁷⁵ MNCs often prefer FDI by way of direct investment and internal transfers to licensing. The preference for FDI is increased when the newest and most profitable technologies (or those closest to the MNC’s actual line of business) are to be exploited.

8.3.2 FDI Horizontal/Vertical

Two types of FDI generally apply, *horizontal* and *vertical*. Horizontal FDI involves the subsidiary producing products or services similar to those produced at home by the parent, whereas vertical FDI involves the subsidiary producing inputs or assembling from components.⁷⁶ For example, the construction of vertically integrated networks, sometimes known as ‘production fragmentation’, ‘delocalisation’, or ‘outsourcing’ is the most significant recent trend in vertical FDI.

If the technology is transferred by way of FDI (whether horizontal or vertical), it is unlikely to be licensed to domestic competitors in the host market, which will often mean that the only way that local competitors will be able to gain access to the technology (particularly IT) will be in *reverse engineering* (and this will depend on the skills available: with software, decompilation and disassembly, the technical procedures for reverse engineering, is a timely and expensive business⁷⁷) or by hiring MNC employees with specialist skills or by

⁷⁴ Ibid.

⁷⁵ Moran, H.T., *Parental Supervision: The New Paradigm for Foreign Direct Investment and Development*, No. 64 Policy Analyses in International Economics, Institute for International Economics, August 2001, p. 63.

⁷⁶ For a more thorough analysis of vertical and horizontal FDI, see Maskus, *supra* note 47, p. 20.

⁷⁷ Correa (*supra* note 6, p. 154), makes the point that rather than reverse engineering large and complex programs, which is time intensive and costly, a better approach might be to gain access to the *user interface* (the ‘look and feel’) of existing applications. In this way, competitors could develop alternative applications using the same command-type sets of existing applications. However, in the US case of *Lotus v. Paperback* (28 June, 1990 740 FSupp 37), Judge Keeton J, in the District Court of Massachusetts recognised Lotus’ rights to the protection of menu command structures.

some other form of spillover (see below). In high technology markets where database and object/source code act as the technological platform, a provision for reverse engineering built into the regulatory framework is crucial for both competition and innovation. Although such a provision has been the subject of heated debate, several jurisdictions allow for it: in the US for example, in *NEC Corporation v. Intel Corporation*, the court did not condemn the disassembling of an Intel microcode for the purpose of researching and developing a competitive microcode program.⁷⁸ The European Council Directive 91/250 on the *Legal Protection of Computer Programs* allows for reverse engineering if it is intended to achieve 'interoperability' with the evaluated program.⁷⁹ The US Digital Millennium Copyright Act (DMCA) allows for a similar provision.⁸⁰ In Asia, at the time of writing, the government of Singapore has just completed a public consultation on a new Copyright (Amendment) Bill 2004,⁸¹ which, if introduced in full, will adopt new measures on anti-circumvention that will attract both civil and criminal liability if breached. The Bill also provides for new exceptions relating to decompilation, restricted for purposes of research into interoperability, observing, studying and the testing of computer programs.⁸²

In the field of high technology, communications or similar network-based industries characterised by vertical integration, industry characteristics that will signal high barriers to entry, high concentration, and possible inefficiency that follows from low levels of local competition, will include scale economies, high initial capital requirements, intensive advertising and advanced technology, the kind of market characteristics that suit MNCs. By contrast, entry by domestic firms in potential host countries into markets characterised by such indicators is likely to be difficult. The entry of MNCs by way of FDI (internalised transfers through foreign affiliates) into local markets characterised in this way (for example, monopolistic or oligopolistic markets) can result in two outcomes: (a) either an increase in the level of competition forcing local firms to become more efficient, or (b) forcing the least efficient firms out of business. The fear is that MNCs could outcompete all local firms and establish positions of market influence or

⁷⁸ *NEC Corporation v. Intel Corporation* 67.434 ND Cal 6 February 1989.

⁷⁹ Article 6, EC 91/250.

⁸⁰ A decompilation provision is provided by s. 1201(f) of the *Digital Millennium Copyright Act* (DMCA) 1998. The provision allows a person to circumvent access control measures around a copyrighted work, if the motive is to assist in the production of a separate program meant to be interoperable with the copyrighted work, or other programs that depend on the copyrighted work.

⁸¹ Introduction to the *Copyright (Amendment) Bill 2004* at: http://www.newiplaws.org.sg/pdf/Intro_Copyright.pdf, accessed September 2005.

⁸² *Ibid.*, p. 11: Defined in the public consultation document as 'The act of translating machine-readable computer language into a humanly-readable form'.

dominance greater than the historical position of the local firms, and go on to repatriate profits and avoid taxation through transfer pricing.⁸³ As Gurak argues:

... foreign investors enjoy monopolistic/oligopolistic advantages in the host country over the quantity/quality of production, distribution, source of inputs and finance, prices, quantity/type of exports, and the method of production. These monopolistic/oligopolistic advantages may cause serious adverse effects on the economy of recipient countries, such as imbalance of payments, 'non-transfer' of technology, deterioration of income distribution or the introduction of inappropriate (luxury) products.⁸⁴

Lall argues that MNCs could escalate the natural concentration process in DCs, or that the weakness of local competitors will allow MNCs to achieve a higher degree of market dominance than in developed countries.⁸⁵ MNCs may buy out local firms or force them out of business, thus increasing the barriers to entry to markets. In a WTO paper, the WGTI refers to Lall's study of the effect of MNEs⁸⁶ on concentrations in 46 Malaysian industries. In its paper, the WGTI cites Lall's conclusions that the presence of foreign firms on balance increases concentration, and that this was brought about by 'the MNEs' impact on general industry characteristics – such as higher initial capital requirements, capital intensity, and advertising intensity – and by some apparently independent effect of foreign presence, perhaps related to "predatory" conduct, changes in technology and marketing practices, or gains of policy concessions from the government'.⁸⁷ In effect FDI has the tendency to increase concentration in most host countries with the added risk that MNCs could *crowd out* local firms in developing countries rather than developed countries because of their technological advantages.⁸⁸ UNCTAD's *World Investment Report* (2004), also raises the issue of local firms being crowded out by MNCs,⁸⁹ although the 2005 report indicates a more optimistic view.

⁸³ WT/WGTI/W/65, paras 15 and 16.

⁸⁴ Hasan, G. 'Hidden Costs of Technology Transfer', *YK-Economic Review*, June 2003, p. 10.

⁸⁵ Lall, S. 'Transnationals, Domestic Enterprises and Industrial Structure in LDCs: A Survey', *Oxford Economic Papers*, 30, 217–48.

⁸⁶ Multinational Enterprises, in this chapter referred to as MNCs.

⁸⁷ WT/WGTI/W/65, para. 49.

⁸⁸ *Ibid.*

⁸⁹ In the banking and retail sectors, for example, the UNCTAD report highlights how local firms have been crowded out of host country markets. In banking this has been due mainly to local banks' lack of geographical diversification and experience, limited financing capacity, and higher costs of new product implementation. In retailing, the problems have been due to new ways of doing business, new pricing structures, improved information management processes and new marketing and merchandising methods. UNCTAD, *World Investment Report*, 2004, p.xxiii.

In Europe, the European Commission (EC) together with the European Court of Justice has developed a body of jurisprudence that deals with the effect of concentrations, whether concentrative joint ventures or by way of merger.⁹⁰ The EC has also recently introduced the revised Technology Transfer Block Exemption (TTBE) and the Guidelines to assist with its interpretation.⁹¹ In the United States, there are the Sherman and Clayton Acts. At the multilateral level, Articles 31 and 40 TRIPS Agreement also deal with the issue of unfair competition.⁹²

On the point of transfer pricing, Gurak goes on to argue that a transfer pricing mechanism can sometimes be used as a clandestine transfer of company revenues (invisible profits) from the subsidiary to the parent firm.⁹³ Often a transfer pricing mechanism accompanied by restrictive clauses in the technology transfer agreement obliges the foreign affiliate (subsidiary) to '(1) buy the necessary capital goods and other inputs of production from the sources, and at the prices, determined by the technology supplier (over-pricing); and /or (2) to sell the subsidiary's output to customers, and at prices, determined by the technology supplier (under-pricing)'.⁹⁴ The MNC will favour such an approach for a number of reasons including avoiding any double taxation provisions or host country taxation provisions that may exist, maximising profits in predetermined profit centres, for example where the MNC has set up a profit centre located within its regional headquarters, and overcoming host country controls and regulations on remittances (payment of royalties for example).

8.3.3 Spillover

As mentioned above, the actual diffusion of technology into the local market is as important as the technology transfer itself. Diffusion will take place by way of various types of knowledge spillover on other firms in the local market. There is also the related issue of absorption. It is one thing to create policy incentives to encourage MNCs in generating spillover, but quite another for developing country producers to use bare, documented technological information which is dependent on the absorption capacity of the producers. DCs and LDCs with limited absorption ability are much more likely to place greater

⁹⁰ Articles 81, 82 Treaty of Rome, the new EC Merger Regulation (EC) No. 139/2004 (see also Commission Regulation (EC) No. 802/2004 April 2004 implementing the new Merger Regulation and annexes (Form CO, Short Form CO and Form RS)) and the jurisprudence of the EU Court of First Instance, and the European Court of Justice.

⁹¹ Commission Regulation 772/2004 (April 2004) and Commission Notice 2004/C 101/02 (April 2004) respectively.

⁹² Discussed in more detail later in this chapter at Section 8.5.

⁹³ Hasan, *supra* note 84, p. 12.

⁹⁴ *Ibid*, p. 13.

reliance on unpatented know-how to assure effective transfer. Welch, citing studies by F. Contractor, indicates that: 'less developed countries place greater emphasis on organisational and production management assistance in licensing arrangements than do advanced countries'.⁹⁵ Some commentators argue that spillover effects are far more important for diffusion than the formal transfer of the technology itself.⁹⁶ Spillover has been defined in various ways by economists and lawyers alike,⁹⁷ but in the context of the WTO, generally spillovers occur 'when the entry or presence of MNC affiliates leads to productivity or efficiency benefits for the host country's local firms, and the MNCs are not able to internalise the full value of these benefits'.⁹⁸

Spillover in the host country is achieved in various ways, including: (a) demonstration effects; (b) the establishment of vertical linkages between foreign investors and customers and suppliers, which can transfer knowledge about quality standards, process improvements or techniques of management; (c) the movement of labour, which enables employees to transfer the experience they have acquired in a foreign firm to a local firm; and (d) the impact of FDI on competition.⁹⁹ FDI is dealt with under the WTO Agreement on *Trade Related Investment Measures* (TRIMS), although in its current form, the TRIMS offers little attention to the quality of the FDI or its relevance to technology transfer.¹⁰⁰

Mytelka is sceptical as to the benefits of FDI in generating spillover.¹⁰¹ Her organisation, the United Nations University Institute for New Technologies, is conducting a number of studies on spillover in the developing world.¹⁰² Mytelka argues that studies of technology spillover in selected developing countries show very mixed results and that the actual measurement of spillover is problematical in itself. She argues:

⁹⁵ Welch, *supra* note 61, p. 159 citing Contractor, F., 'The Composition of Licensing Fees and Arrangements as a Function of Economic Development of Technology Recipient Nations', *Journal of International Business Studies*, 1980.

⁹⁶ WT/WGTI/W/65, para. 10.

⁹⁷ See for example Ramachandran, V., 'Technology Transfer, Firm Ownership, and Investment in Human Capital', *Review of Economics and Statistics*, 75, 1993, pp. 664–70.

⁹⁸ WT/WGTI/W/65, para. 11.

⁹⁹ WT/WGTI/W/136, para. 23.

¹⁰⁰ Furthermore, the TRIMS does not apply to services (Article 1 TRIMS), although it can apply to measures *regulating* services FDI, for example when performance requirements applied to service investors affect trade in goods (see the Annex to the TRIMS).

¹⁰¹ Mytelka, L., Director INTECH, speech to the first session of the WTO Working Group on Trade and Transfer of Technology, April 2002, WT/WGTTT/M/1, para. 51.

¹⁰² See for example the INTECH website at: <http://www.intech.unu.edu/research/index.htm>, accessed October 2004.

... many studies of technology spillover measure this as increases in productivity, that is in output per person/hour worked. But increased productivity may merely reflect a situation in which smaller local firms are driven out of the market by larger foreign firms in industries where scale economies are important. Unless we know more about the ability of smaller local firms to acquire the financing needed for expansion, we cannot attribute the change in productivity to a technology spillover but merely to the replacement of existing capacity by more capital-intensive foreign firms. Productivity increases, moreover, are not necessarily accompanied by growing competitiveness as measured by market shares in the domestic or export markets. Measuring technology spillover is thus a problem.¹⁰³

8.4 UNBUNDLING THE IPR PACKAGE

The development of an IPR framework within a host country can be linked to the way in which FDI evolves within that country. For example, as vertical FDI begins to diminish, horizontal FDI takes its place. One can think of the process as a form of a cycle. By the time that horizontal FDI takes root, the host economy is often in a position to be an attractive market for the production of high quality, differentiated consumer and capital goods, due fundamentally to the achievement of higher income levels. Singapore, for example, has been able to achieve the transition from vertical FDI to horizontal FDI in a single generation.

With the uptake of horizontal FDI, IPRs take on increased relevance as the host country has a greater interest in developing a stronger IPR regime to deal with an expanded ability to develop new products and technologies. As mentioned earlier, the IPR package will consist of a number of intellectual property rights including licences for patents and trademarks, supply of industrial technology, technical-industrial corporation, specialised technical services, and marketing rights. The mix of the various subsidiary rights included in a technology transfer package will vary from country to country and project to project, however, for illustrative purposes, in a study of Finnish industrial companies licensing to independent foreign licensees, the proportionate inclusion of the different IPRs licensed broke down as follows: (a) technical know-how (96.1%); (b) patents (48%); (c) trademarks (36.4%); (d) marketing know-how (24.7%); (e) management know-how (11.7%); and (f) designs (5.2%).¹⁰⁴

Maskus has looked at a range of studies on the effect of IPRs on technology transfer. He concluded that: 'Studies based on game theory demonstrate that, while the mode of technology transfer is affected by the level of IPRs protection, the quality of the transferred technology rises with stronger IPRs. Another

¹⁰³ Supra footnote 101.

¹⁰⁴ Oravainen, N., *International Licensing and Know-how Agreements of Finnish Companies*, Helsinki School of Economics, FIBO publication No. 13, 1979, p. 35.

theoretical study shows that technology transfer expands with stronger patents where there is competition between foreign and domestic innovators.¹⁰⁵ Maskus also argues that where local imitation requires knowledge that is available only through the licensed use of technology, the foreign licensors often make only lower-quality technologies available. Branstetter also confirms the view that strengthening patents has a positive effect on technology transfer. In researching firm-level data concerning thousands of US multinational firms' technology licensing activities with their foreign affiliates and unaffiliated firms, Branstetter found evidence for both increased rent extraction and increased deployment of new technology following patent strengthening.¹⁰⁶ Maskus argues that the shift from FDI to licensing following the strengthening of the IPR regime occurs mainly in sectors with rapid innovation rates, such as in the high technology sectors.¹⁰⁷ In low technology sectors, increasing patent protection is more likely to result in a take-up of FDI and lesser use of licensing. As we have seen earlier in this chapter, this is perhaps one reason why MNCs prefer an internalised approach to technology transfer through a foreign affiliate.

However, strengthening the IPR regime can also have negative knock-on effects for developing nations. For example, a more effective patent system can slow technology diffusion by limiting the use of key technologies through restrictive licensing arrangements. Strengthening the IPR regime in the target state could also result in technology producers selling their products directly to the target state without any form of licensing or FDI. As a result, developed countries will benefit from trade in goods and/or services whilst DCs and LDCs will lose the opportunity for technology transfer. There may also be a downturn in R&D expenditure in the host state as local companies are no longer able to invest an adequate percentage of revenue from sales as revenue needs to be set aside for example to meet higher royalty fees as a result of a strengthened local IPR regime. One further point is whether DCs and LDCs should 'reinvent the wheel' when it comes to strengthening IPRs. Arora et al. argue that IPRs under some conditions can enhance the international diffusion of technology by *fostering markets for technology*.¹⁰⁸ In short, if there are existing and competitive markets for technology in the developed world, the priority for the developing world is not to try and reinvent these markets in

¹⁰⁵ Maskus, *supra* note 47, p. 14.

¹⁰⁶ Branstetter, L., 'Do Stronger Patents Induce More Local Innovation?', in *International Public Goods and Transfer of Technology: Under a Globalized IP Regime* (eds Maskus, K., and Reichman, J.), Cambridge University Press, 2005, p. 318.

¹⁰⁷ Maskus, K., Saggi, K., and Puttitanun, T., 'Patent Rights and International Technology Transfer through Direct Investment and Licensing' in Maskus and Reichman, *supra* note 106, p. 281.

¹⁰⁸ Arora, A., Fosfuri, A., and Gambardella, A., 'Markets for Technology, Intellectual Property Rights, and Development', in Maskus and Reichman, *supra* note 106.

their own states, but to figure a way of how to 'fit in'. They cite the example of the growth in the chemical industry in the developed world which created an upstream sector that later spurred the growth of the chemical industry in developing countries as the fixed cost for creating the industry had already been incurred in the developed world.¹⁰⁹ On this basis they argue:

If specialized technology suppliers are nurtured in developed countries, then it is the IPRs in those nations that are most relevant. The recent call for harmonization and standardization of protection of IPRs across the globe is, therefore, not justified on this ground . . . if others have already paid the fixed cost of developing technology, and competition among sellers implies that the price of the technology is related to the marginal cost of technology transfer, a strategy of developing technology in-house and incurring the fixed cost all over again is likely to be inefficient.¹¹⁰

Developing countries who have acceded to the WTO, and have therefore accepted the TRIPS in full, will have to adopt a certain level of minimum standards in patent (and other IPR rights) protection and enforcement as set out in Section 5 TRIPS (patents). For example, the minimum duration for a patent as set out in Article 33 TRIPS Agreement is a period of 20 years from the filing date. Some developing countries have argued that this term of protection is not particularly conducive to easy or quick transfer of technology.¹¹¹ In these countries, imitation will become harder as foreign patents are enforced, which will likely slow innovation, although the flip-side is that, as licensees, developing country producers could also benefit from a strong patent system in that it would provide a degree of protection in the licensee's market as well as forestalling competition to some extent. A strong patent could also provide a degree of technological credibility for an inexperienced licensee.

However, MNCs can also take advantage of a stronger IPR regime to exploit their market positions by way of their IPR asset base. As Muchlinski notes, restriction in technology transfer agreements generally are either those that restrict the recipient's commercial policy in respect of the conduct of business and/or those that preserve the exclusive ownership and use of the technology by the transferor.¹¹² For example, in exploiting stronger IPRs, MNCs can engage in abusive practices such as setting restrictive licensing conditions, requiring technology grant-backs, engaging in tied sales, tying up technology fields through cross-licensing arrangements, establishing vertical controls through distribution outlets that prevent product competition, and engaging in price discrimination as well as predation against local firms.¹¹³ Even where

¹⁰⁹ Ibid, p. 331.

¹¹⁰ Ibid, p. 335.

¹¹¹ WT/WGTTT/W/6, p. 2 (para. ii).

¹¹² Muchlinski, *supra* note 8, p. 433.

¹¹³ Ibid, p. 20.

technology has been licensed, MNCs can impose restrictions in the licence on the export of products that are manufactured utilising the technology transferred.¹¹⁴ To counterbalance such effects, developing countries need to adopt effective laws to deal with abuse of market power or anti-competitive agreements, balancing the IPR rights holders' interests with encouraging competition. This is no easy matter. The European Court of Justice, for example, in deciding cases such as *Magill*¹¹⁵ and *IMS*¹¹⁶ has shown just how complex achieving the balance between effective IPR protection and competition can be.

Besides the use of competition law, DCs and LDCs can directly intervene to help redress the imbalance between MNC and developing country producers. For example, governments could impose *local content requirements* (LCRs) to promote the objectives of technology transfer and also the establishment of local suppliers: As Balasubramanyam and Elliott argue, 'Such backward linkages between foreign firms and locally-owned firms constitute one of the major benefits to host countries from FDI'.¹¹⁷ The objective of putting in place LCRs would be to promote the transfer of know-how from MNCs to local firms.¹¹⁸ In Latin America, the emergence of technology transfer regulations entailed a substantial change in contractual patterns of acquisition of foreign technology, and in the transfer pricing policies conducted by MNCs.¹¹⁹ Governments decided that technology transfer was not a matter for private negotiation, but that state intervention was allowed on grounds of 'public order' and 'national interest'.¹²⁰ This approach was part of a wave of thinking amongst LDCs and DCs that emerged in the early 1970s when the debate on technology transfer to LDCs became a significant plank of the *New International Economic Order* (NIEO), proposed by a group of DCs and LDCs that wanted to use international law to secure greater control through sovereignty over their own natural assets. The NIEO is discussed in more detail in Chapter 10. One issue in particular stood out:

¹¹⁴ WT/WGTTT/W/6, p. 3.

¹¹⁵ *Magill*, a case involving limiting the extent of IPR (copyright protection in television broadcast listings) to prevent abuse of a dominant position and leveraging of market power under Article 82 EC Treaty (then Article 86) (Joined cases C-241/91 and C-242/91P) [1995] ECR I-743.

¹¹⁶ *IMS*, Case C-418/01 April 2004. The case hinges on the controversial issue of when an intellectual property owner's refusal to licence the use of its copyright (in this instance relating to a brick structure used to supply regional sales data for pharmaceutical products in an EC Member State) to a third party competitor constitutes an abuse of a dominant position (refusal to supply) under Article 82 EC Treaty.

¹¹⁷ Balasubramanyam and Elliott, supra note 1, p. 306.

¹¹⁸ *Ibid.*, p. 308.

¹¹⁹ Correa, C., 'Transfer of Technology in Latin America: A Decade of Control', *Journal of World Trade Law*, 15(5), 1981, pp. 388–409.

¹²⁰ *Ibid.*

the need for LDCs to obtain appropriate technology (AT) from MNCs as many LDCs argued that MNCs tended to set up production enterprises that offered little prospect for beneficial technology transfer and that had little positive effect on local skill and employment patterns.¹²¹ As such, governments had the right to both examine technology transfer contracts and refuse their terms, demanding changes that had not been sought by the parties to the contract themselves. Correa cites a number of the objectives sought by governments in these regimes including: '(a) the improvement of the commercial conditions of agreements, particularly as to prices to be charged by the supplier; (b) the elimination of restrictive practices; and (c) the unpacking of different components included in technology transfer.'¹²² Other objectives were the avoidance of importation of technology that was available locally, conditions for diffusion of technology into the local market, and the control of intra-firm operations by MNCs.

Regulatory authorities also looked quite closely at price. In fact, the reduction of prices charged for foreign technologies was one of the primary objectives of state intervention. Issues examined included: (a) the itemisation of the price, for example the identification of the price to be charged for each item included in the agreement; (b) the limitation on the use of certain forms of remuneration; and (c) the determination of the amount to be remitted (setting maximum royalty rates acceptable to the type of technology or the industrial activity of the recipient party).¹²³ Some countries, such as Brazil, prohibited royalty payments between parent and subsidiaries in respect of licences on patents and trademarks. Correa provides an example of The Andean Group adopting a similar approach on the grounds that 'any transfer of technology to developing countries had no marginal cost, and therefore any price obtained from it would be a monopoly rent'.¹²⁴ It is difficult to see how this could be justified, given that to create an internal accounting system in its own right between parent and subsidiary to account for royalty receipts on transfers would in itself incur a measure of transfer costs. Welch cites a study of the cost of technology transfer by US MNCs, including both transmission and absorption costs, highlighting that transfer costs were on average 19% of total project costs, ranging from 2% to 59%.¹²⁵ This is contrary to the expectation that the marginal cost of transferring technology, once developed, will be low. However, specialised technology transfer laws have not gained in popularity. In Nigeria they were either ignored or abandoned, and as Muchlinski reports, the ANCOM countries which spearheaded the adoption of

¹²¹ Muchlinski, *supra* note 8, p. 430.

¹²² *Ibid.*, p. 392.

¹²³ *Ibid.*, p. 396.

¹²⁴ *Ibid.*, p. 397.

¹²⁵ Welch, *supra* note 61, p. 160.

such laws have also abandoned an attempt to create a standardised interregional technology transfer regime.¹²⁶

Other restrictions commonly seen in technology transfer agreements include restrictions on the use of IPRs after expiry of such rights and restrictions on the use of *non-patented* technology after expiry of the technology transfer agreement. The result of the former restriction is that it has the effect of excluding the licensee from the market with the consequent loss of any investments made by the licensee in exercising the patent. Alternatively, the restriction would result in the licensee having to renegotiate a new agreement from a much weakened bargaining position. The result of the restriction on the use of non-patented technology could potentially be very wide. Often it is unpatented know-how that is crucial in technology transfer to making the technology work. The knowledge embodied in the patent itself is often insufficient. As Welch argues:

The pre-eminence of unpatented know-how demonstrates that the clearly specified technical information for public registration does not fulfill the demand of effective technology transfer in most situations. The technological know-how which is considered of greater importance is of a more intangible, company-specific nature, and requires person-to-person interaction for the transfer to be realised.¹²⁷

However, many DCs and LDCs keen to attract FDI are reluctant to impose onerous regimes that might deter investors.¹²⁸ There may be lessons from Latin America's experience in allowing state intervention in negotiating technology transfer agreements. For example, UNCTAD's *World Investment Report* (2004) indicates that Latin America in comparison to a number of regions (particularly Asia) suffered a decline in FDI,¹²⁹ although the 2005 report indicates that for both Latin America and the Caribbean after almost four years of this decline, there was a significant upsurge in 2004, reaching \$68 billion, almost 44% higher than in 2003.¹³⁰ It is difficult to prove whether this may or may not be down to state intervention, as the parameters for FDI are often quite complex, sometimes involving a web of interlinking investment/bilateral trade treaties and obligations through multilateral treaties, such as the GATS (discussed later in this chapter at Section 8.6), however state intervention could be a factor in reduced FDI flow.

Perhaps, one can conclude that as a matter of general commercial practice, direct state intervention in contracts between private parties is not the best

¹²⁶ Muchlinski, *supra* note 8, p. 447.

¹²⁷ *Ibid.*, p. 158.

¹²⁸ See for example Section 8.6 below on International Investment Agreements and Technology Transfer.

¹²⁹ UNCTAD, *World Investment Report*, 2004, p. xvii.

¹³⁰ UNCTAD, *World Investment Report*, 2005, p. 62

solution. In any case, such supervision requires a high level of human resources within the national regulatory authority that is both well informed and well resourced, and the majority of DCs and LDCs do not have such an advantage. A better approach might be to adopt flexible *ex-post* measures (competition policy) that can correct market failure (anti-competitive agreements that have material effect on the relevant market or abuse of a dominant position), but can also reserve for the regulator certain *ex-ante* (or sector-specific measures) for situations where competition law is difficult to apply, for example in tariff setting for technology transfer inputs or tax provisions affecting economic development zones.¹³¹

An example of a combined *ex-ante/ex-post* approach is found in the European Commission's new regulatory framework for electronic networks and services, where the EC combines the competition powers of the National Regulatory Authority in monitoring markets for effective competition (where no undertaking with *significant market power*¹³² exists in a relevant market) with *ex-ante* powers to impose conditions whether or not effective competition exists (for example in mandating access to a network facility or granting access to a software interface). The EC's new *Technology Transfer Block Exemption Regulation* (TTBE),¹³³ discussed in detail elsewhere in this book, is also a very good example of a combined flexible approach using both *ex-ante* and *ex-post* provisions and more directly related to the issue of technology transfer, for example in setting market thresholds for licences negotiated between undertakings,¹³⁴ and distinguishing further licences between competitors, and between non-competitors. The TTBE provides a measure of legal certainty in that so long as undertakings do not exceed the market share thresholds set out in the TTBE, the technology transfer agreement will automatically be block-exempted from the application of Article 81(1) Treaty of Rome relating to anti-competitive agreements between undertakings, provided that the agreement contains no hardcore restrictions.¹³⁵ No doubt for DCs and LDCs, there are cost factors inherent in adopting such an approach, in that, following the 'Modernisation school of thought', developed country practice may not always be appropriate for DC and LDC domestic markets. A possible

¹³¹ Discussed further below in the Conclusion.

¹³² Defined at Article 14(2) Framework Directive 2002/21/EC as: 'An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers'.

¹³³ EC 772/2004, April 2004.

¹³⁴ Ibid, Article 3.

¹³⁵ Ibid, Recital 13 and Article 4.

way around this problem could be for LDCs and DCs to ‘pool’ their resources, perhaps in the form of appropriate regional agreements on cooperation in matters relating to technology transfer. The success of such a pooling of resources will no doubt depend on the ability of DC and LDCs to work together as opposed to competing for FDI/international licensing opportunities. The Southern African states, for example, have been successful in cooperating on regional telecommunications policy in establishing the New Partnership for Africa’s Development (NEPAD) programme. The author discusses the issue of ‘pooling’ further in the next section.

8.5 TECHNOLOGY TRANSFER AT THE MULTILATERAL LEVEL

In Chapter 7, the author discusses the first phase of the *World Summit on the Information Society* (WSIS) held in Geneva in 2003, and the *WSIS Declaration of Principles*¹³⁶ that support three main Articles on technology transfer. Also discussed was the second Phase of the World Summit, which took place in Tunisia in 2005. It is hoped that a number of goals set out in Article 6 *WSIS Action Plan*¹³⁷ will be achieved (see Chapter 7). In the context of the WSIS, the WTO’s Information Technology Agreement (ITA) and ITA-II are also discussed at Section 7.6.

Many LDCs and DCs, however, still face the problem of innovating around the technology that they are importing, particularly in the area of semiconductor technology. Both the *Washington Treaty on Intellectual Property in Respect of Integrated Circuits* (1989), and the EU Directive 87/54/EEC on the *Legal Protection of Topographies of Semiconductor Products* (1986) create rights in the topological design of semiconductors.¹³⁸ The protection offered by US and EU law, together with provisions set out in the TRIPS Agreement,¹³⁹ will make it increasingly difficult for developing countries to

¹³⁶ WSIS-03/GENEVA/00C/4-E, December 2003.

¹³⁷ *World Summit on the Information Society*, Document WSIS-03/GENEVA/DOC/5-E, December 2003.

¹³⁸ See Article 6(1) US Washington Integrated Circuits Treaty, and Article 3(7) EU Directive 87/54. See also the European Council Decision of 19 December 1994 *on the extension of the legal protection of topographies of semiconductor products to persons from certain territories* (94/828/EC), which extended the provisions of the earlier EU Directive 87/54, by extending protection to qualifying nationals of additional countries not covered by the earlier directive, and to comply with the TRIPS Agreement.

¹³⁹ Article 36 TRIPS Agreement sets out the scope of protection with regard to integrated circuits: ‘Members shall consider unlawful the following acts if performed without the authorization of the right holder: importing, selling, or otherwise distributing for

get access to semiconductor technology despite the provisions of the ITA. Furthermore, the TRIPS sets out at Article 38 that in respect of an integrated circuit incorporating an unlawfully reproduced layout-design or any article incorporating such an integrated circuit, the importer is required to pay a royalty as would be found in a typical freely negotiated licence agreement had the technology been properly licensed. Such provisions put potentially onerous burdens on developing country producers to have the requisite knowledge that chip technology is non-infringing, and to compensate design title-holders in the event that it is. Furthermore, although the *sui generis* regime on integrated circuit designs allows for reverse engineering of protected layout designs, very few countries have the resources and skills necessary to undertake it.¹⁴⁰ Also, given that less than a handful of companies in the world control substantial *patent pools* (blocks of patents) in relation to semiconductor technology, LDC and DCs have even less chance of gaining access to the technology for the purposes of innovation. This is particularly the case where leading developed country manufacturers are also involved in the setting of standards in relation to chip design.¹⁴¹ If the WSIS goals are to be met, LDCs and DCs will need to take a greater role in participating in the technical standard-setting activities of the developed countries, particularly in relation to information technology. Countries, such as Singapore, Korea, Taiwan and increasingly China and India, should be in a position to take a greater role.¹⁴²

The WTO's Technical Barriers to Trade Agreement (TBT) (mentioned in Chapter 7) sets out provisions at Article 11 to help LDCs gain technical assistance with standards,¹⁴³ but many developing countries complain that such

commercial purposes a protected layout-design, an integrated circuit in which a protected layout-design is incorporated, or an article incorporating such an integrated circuit only in so far as it continues to contain an unlawfully reproduced layout-design'.

¹⁴⁰ Correa, *supra* note 6, p. 157.

¹⁴¹ See for example the cases of *Rambus v. Infineon Technologies AG*, No. Civ. A. 3:00CV524 (2001), and *Dell Computer* 121 FTC 616 (1996). Both cases involved anti-competitive conduct by chip manufacturers who had previously been involved in chip standard-setting processes, and who allegedly used patents to block innovation.

¹⁴² For example, in the area of software development, there should be no reason why software innovations should not come increasingly from developing countries, particularly with the take-up of the Free and Open-Source Software Movement (FOSS), discussed in more detail in the concluding section of this chapter: Recommendations going forward.

¹⁴³ For example, Article 11.2 TBT Agreement says that: 'Members shall, if requested, advise other Members, especially the developing country Members, and shall grant them technical assistance on mutually agreed terms and conditions regarding the establishment of national standardizing bodies, and participation in the international standardizing bodies, and shall encourage their national standardizing bodies to do likewise'.

assistance has not been forthcoming.¹⁴⁴ As such, some developing countries are calling on the WTO to implement an ‘early warning system’ with regard to standards, and a mechanism to facilitate adjustment by developing countries to meet new standards.¹⁴⁵ Clearly the WTO Secretariat needs to meet this challenge if LDCs and DCs are to increase their contribution to world trade. The solution is essentially a political one which requires the WTO to enforce existing special and differential treatment provisions,¹⁴⁶ for example, Article 66.2 TRIPS Agreement, which calls for developed country Members to ‘provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base’. Paragraph 11.2 of the *Doha Decision on Implementation-Related Issues and Concerns* (the ‘Implementing Decision’) reaffirms that the provisions of Article 66.2 are mandatory, and that the TRIPS Council ‘puts in place a mechanism for ensuring the monitoring and full implementation of the obligations in question’.¹⁴⁷ On 19 February 2003, the TRIPS Council made a decision on implementing Article 66.2 in compliance with paragraph 11.2 Implementing Decision, requiring developed country Members to submit annual reports on actions taken or planned in pursuance of their commitments under Article 66.2.¹⁴⁸

With the failure of the discussions at Doha, there should perhaps be further movement here. For example, in a Decision (*General Cancun Decision*) adopted by the WTO’s General Council in August 2004, the Council instructed the Committee on Trade and Development to ‘expeditiously complete the review of all the outstanding Agreement-specific proposals [on special and differential treatment] and report to the General Council, with clear recommendations for a decision’.¹⁴⁹ We will, however, have to wait and

¹⁴⁴ WT/WGTTT/W/6, p. 3.

¹⁴⁵ *Ibid.*, p. 3, para. (v).

¹⁴⁶ Virtually all WTO agreements have special provisions with respect to developing country members, known as *Special and Differential Treatment* terms. See the WTO report, *Implementation of Special and Differential Treatment Provisions in WTO Agreements and Decisions*, WT/COMTD/W/77.

¹⁴⁷ WT/MIN(01)/17, Article 11.2. Around 100 implementation issues were raised in the lead-up to the Doha Ministerial Conference. The implementation decision, combined with paragraph 12 of the main Doha Declaration, provided a two-track solution for agreeing some implementation issues prior to the Doha Round. According to the WTO, more than 40 items under 12 headings were settled at or before the Doha conference. See the WTO website at: http://www.wto.org/english/tratop_e/dda_e/dda_e.htm#implementation, accessed October 2004.

¹⁴⁸ IP/C/28.

¹⁴⁹ Clause 1(d), WT/L/579.

see whether the review will have any meaningful outcome for DCs and LDCs.¹⁵⁰

In an ideal world, an effective IPR regime should not block innovation or effective competition. As mentioned earlier, Article 7 TRIPS Agreement sets out the objective that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology. Furthermore, the TRIPS Agreement also contains a number of provisions that deal with anti-competitive conduct, including Articles 8 and 40. Article 8.2 allows for Members to adopt ‘appropriate measures’ to prevent the abuse of intellectual property rights by right holders or the resort to practices which ‘unreasonably restrain trade or adversely affect the international transfer of technology’. For example, in the *WTO Working Group on the Interaction of Trade and Competition Policy*, the view was expressed that ‘one of the effects of international cartels could be to restrict the transfer of technology, particularly to developing countries’.¹⁵¹ Again under Article 40.2 TRIPS, Members may adopt appropriate measures to prevent or control anti-competitive practices, which may include for example ‘exclusive grantback conditions, conditions preventing challenges to validity and coercive package licensing’. Finally, in terms of gaining access to technology, LDCs and DCs could make use of the *compulsory licensing* provisions of the TRIPS Agreement. Article 31 TRIPS sets out the *conditions* for compulsory licensing.¹⁵² Correa argues that ‘the conditions that govern the granting of compulsory licenses will determine the extent of the system’s effectiveness in promoting local innovation and the transfer of technology’, and that ‘the existence of a statutory provision itself may persuade rights-holders of the need to act reasonably in cases of requests for voluntary licenses, while strengthening the bargaining position of potential licensees’.¹⁵³ But without access to the technical know-how to execute

¹⁵⁰ In October 2004, the WTO Committee on Trade and Development produced a report listing all the special and differential treatment provisions to be found in the WTO covered agreements for LDCs. See WT/COMTD/W/135, October 2004. The report simply lists the provisions, but makes no recommendations going forward.

¹⁵¹ WT/WGTTT/5, para. 15.

¹⁵² Selected conditions include: authorisation to be based on individual merits, requirements for the rights holder to have been approached already with a reasonable offer of licensing (unless a national emergency applies), in the case of semiconductor technology use restricted only for public non-commercial use or to remedy a practice determined after judicial or administrative process to be anti-competitive, non-exclusive, predominantly for the domestic market, provisions for economic remuneration, possibility of revocation of the licence.

¹⁵³ Correa, *supra* note 6, p. 244. See also recent developments in the area of compulsory licences with regard to public health. Given the proliferation of HIV/AIDS in the developing world, international institutions, such as the WTO, have come under

the invention, access to the patent itself will not be very fruitful. Nevertheless there have been some US cases where a transfer of know-how was required as part of the compulsory licence or settlement.¹⁵⁴ However, in order to implement such measures, LDCs and DCs are left with the task of putting in place effective legislation on competition, which requires both trained personnel and resources.¹⁵⁵ Many LDCs have not used their compulsory licensing provisions because of the high costs and delays involved.¹⁵⁶

8.6 INTERNATIONAL INVESTMENT AGREEMENTS AND TECHNOLOGY TRANSFER

At the bilateral level, the number of bilateral investment treaties (BITs) covering FDI in services reached 2,265 by the end of 2003, and involved 175 countries.¹⁵⁷ By 2004, this had grown by a further 73 new BITs (World Investment Report, 2005). Earlier in this chapter, the point was made that if the links to other economic sectors are weak, FDI may operate in enclaves with limited spillover into technologies adopted and wages earned by local firms and workers.¹⁵⁸ One way of addressing this weakness of FDI is perhaps an International Investment Agreement (IIA) or BIT, where FDI is included in the services

increased pressure to recognise the difficulties that WTO Members with insufficient or no manufacturing capabilities in the pharmaceutical sector are facing in producing effective drugs for treatment and the need to obtain supplies quickly. As such, the WTO has now granted a waiver of condition 31(f) TRIPS Agreement on manufacture for domestic markets only, allowing other WTO Members to produce drugs cheaply for import by WTO Members who are *eligible*. See the Decision of the General Council August 2003, *Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and public health* (WT/L/540).

¹⁵⁴ Correa, *supra* note 36, p. 248, where Correa cites a Federal Trade Commission case involving Dow Chemicals, and also *FTC v. Xerox Corporation* 86 FTC 364 (1975) where through a consent decree Xerox was required to offer all of its office copier know-how royalty-free to US patent licensees.

¹⁵⁵ In the *General Cancun Decision*, referred to above at note 149, the WTO's General Council states at para. 1(d) on development that the: 'Council affirms that such countries, and in particular least-developed countries, should be provided with enhanced TRTA [trade related technical assistance] and capacity building, to increase their effective participation in the negotiations, to facilitate their implementation of WTO rules, and to enable them to adjust and diversify their economies. In this context the Council welcomes and further encourages the improved coordination with other agencies, including under the Integrated Framework for TRTA for the LDCs (IF) and the Joint Integrated Technical Assistance Programme (JITAP)'.

¹⁵⁶ Muchlinski, *supra* note 8, p. 439.

¹⁵⁷ UNCTAD, *World Investment Report*, 2004, p. 221.

¹⁵⁸ See Sections 8.3.1–8.3.2

chapter of the treaty.¹⁵⁹ This is already happening to some extent. For example, the 2004 report on investment from UNCTAD records the entry of FDI into the *services* market.¹⁶⁰ The reasons why such agreements are negotiated include, for the LDCs and DCs, increased options for attracting foreign investment for development on the one hand, and on the other, increased certainty for foreign investors that their investments will be secure as well as increasing market access and obtaining better conditions for national treatment for MNCs (than perhaps provided by LDCs' or DCs' special commitments under the GATS).

However, a number of BITs contain prohibitions on certain *performance requirements* with regard to technology transfer.¹⁶¹ Restrictions on performance requirements are not necessarily advantageous for LDCs and DCs. This is particularly the case with NAFTA, which in the performance requirements sections, prohibits the imposition or enforcement by a Party of requirements 'to transfer technology, a production process or other proprietary knowledge to a person in its territory' in connection with the admission or treatment of an investment of an investor of any Party or non-Party (unless required to do so by a competition authority).¹⁶² Similar technology transfer performance requirements can be found in other free-trade agreements.¹⁶³ The bilateral investment treaties of the United States also often include a prohibition of mandatory requirements 'to carry out a particular type, level or percentage of research and development' in the territory of a party.¹⁶⁴ Although performance requirements restricted to controlling the competitive conditions of a market may be good for the general economic development of the host LDC or DC, more extensive requirements as to the generation, transfer and diffusion of technology, which go beyond competition-related issues, could also be prohibited under performance requirement restrictions.¹⁶⁵ Therefore LDCs and DCs interested in including development-oriented clauses in the IIA which touch on local personnel training

¹⁵⁹ UNCTAD, *World Investment Report*, 2004, p. 221.

¹⁶⁰ *Ibid.*

¹⁶¹ A performance requirement may be a condition that the host country imposes on the investing operator to fulfil (for example to recruit a certain quota of local people, or to contract to buy raw materials only from producers in the host state etc.).

¹⁶² Article 1106(1)(f) NAFTA. See also WT/WGTI/W/136, para. 28.

¹⁶³ 'See e.g. Art. G-06 of the Free Trade Agreement between Canada and Chile (1996); Art. 15-05 of the Free Trade Agreement between Bolivia and Mexico (1994); Art. 9-07 of the Free Trade Agreement between Chile and Mexico (1998); and Art. 14-07 of the Free Trade Agreement between Mexico, El Salvador, Guatemala and Honduras (2000). These free-trade agreements also include a prohibition of requirements imposed on investments to act as exclusive suppliers of goods or services to a specific region or to the world market' (cited from WT/WGTI/W/136 at footnote 85).

¹⁶⁴ WT/WGTI/W/136, para. 34, which cites Art. VI(f) of the bilateral investment treaty between the US and Bolivia (1998) as an example.

¹⁶⁵ UNCTAD, *Transfer of Technology*, UNCTAD/ITE/IIT/28, 2001, p. 96.

requirements or the regulation of royalty payments by the developing country licensee would be restricted from doing so by the restrictions on performance in the IIA.¹⁶⁶ However, as UNCTAD's *World Investment Report* (2004) points out:

IIAs covering services FDI are proliferating at the bilateral, regional, and multilateral levels. The resulting network of international rules on FDI in services is multifaceted, multilayered and constantly evolving, with obligations differing in geographical scope and substantive coverage. These rules are increasingly setting the parameters for national policies in the services sector.¹⁶⁷

The 2005 report indicates a further growth in BITs, IIAs, RTAs and FTAs.¹⁶⁸ The EU has worked towards RTAs with countries in the Balkans, the Middle East and North Africa, and is currently negotiating RTAs with MERCOSUR and the Gulf Cooperative Council. The EU exercised a moratorium on any new RTA trade negotiations since the start of the Doha Round, but at the time of writing this is now under review subject to the outcome of Doha. With potential candidates for future RTAs by the EU with India, South Korea and ASEAN (South East Asian Nations) being mooted by the EU, this shift from multilateralism will raise concern within the WTO. In July 2006, in a bid to ensure that RTAs work more as 'building blocks' and not 'stumbling blocks' to World Trade, the Director-General of the WTO Pascal Lamy announced a new WTO decision on a *transparency mechanism*, which will see the need for RTAs to be notified to the WTO. The Committee on Regional Trade Agreements will conduct the review of RTAs falling under Art. XXIV GATT and Art. V GATS, and the Committee on Trade and Development will conduct the review of RTAs falling under the *Enabling Clause* (GATT trade arrangements between developing countries). RTA parties will need to submit data relating to trade statistics, imports, exports and preferences including MFN duties. For the purposes of discussion on FDI both in this chapter and Chapter 10, parties will also need to submit relevant statistics on FDI. Clearly LDCs and DCs, entering into such agreements to attract FDI, are going to increasingly face the difficult challenge of striking a balance between using IIAs and RTAs to attract FDI on the one hand, and maintaining sufficient

¹⁶⁶ There may be scope however to include performance requirements in the IIA, if the investor is to receive an 'advantage' under the agreement, provided that the contracting state providing the technology has not prohibited performance requirements in any other IIA. *Ibid.*, p. 97. See also the *OECD's Guidelines for Multinational Enterprises* that look to set requirements on MNCs to cooperate in the technology and science policy of the host country and prevent abusive practices (Sections VIII and IX respectively) at: <http://www.oecd.org/dataoecd/56/36/1922428.pdf>, accessed October 2004.

¹⁶⁷ UNCTAD, *World Investment Report*, 2004, p. 235.

¹⁶⁸ During 2004, 73 new BITs were concluded. UNCTAD, *World Investment Report*, 2005, p. 24.

flexibility to pursue national development plans in the services sector on the other.¹⁶⁹ If the Doha Round fails to deliver as a consequence of failure to agree on US agricultural subsidies and EC import tariffs, negotiations on international trade are more likely to take the form of RTAs, FTAs and bilateral trade agreements, weakening the multilateral system. This could result in increased litigation, for example by countries such as Brazil and India for failure by the US in honouring existing Uruguay Round commitments in agricultural subsidies and cotton. A 2005 Oxfam report indicates US\$13 billion of subsidies that could infringe the WTO Agreement on Subsidies and Countervailing Measures, including Euros 3.6 billion illegal EU subsidies and Euros 7.9 illegal US subsidies in 2004 (see Oxfam's November 2005 Briefing Paper: *Truth or consequences: why the EU and the USA must reform their subsidies, or pay the price*). Bilateralism, Free Trade Agreements and IPRs are discussed in more detail in Chapter 9.

8.7 CONCLUSION

The failure of the WTO Ministerial Conference held in Cancun in September 2003 meant that no decision was taken on any of the issues under negotiation or consideration in the Doha Work Programme, including deliberations of the Working Group on Trade and Transfer of Technology, which was set up by ministers at Doha to examine 'the relationship between trade and transfer of technology, and of any possible recommendations on steps that might be taken within the mandate of the WTO to increase flows of technology to developing countries'.¹⁷⁰

¹⁶⁹ The significance of maintaining flexibility for determining national policy has been adopted as a policy objective at the UNCTAD XI Conference in Sao Paulo (June 2004) (the *Sao Paulo Consensus*), which states at para 8 that: 'The increasing interdependence of national economies in a globalizing world and the emergence of rule-based regimes for international economic relations have meant that the space for national economic policy, i.e. the scope for domestic policies, especially in the areas of trade, investment and industrial development, is now often framed by international disciplines, commitments and global market considerations. It is for each Government to evaluate the trade-off between the benefits of accepting international rules and commitments and the constraints posed by the loss of policy space. It is particularly important for developing countries, bearing in mind development goals and objectives, that all countries take into account the need for appropriate balance between national policy space and international disciplines and commitments'. UNCTAD, TDL/L30, June 2004.

¹⁷⁰ WTO website on Working Group on Trade and Transfer of Technology at www.wto.org, accessed October 2004. The first draft of the Cancun Ministerial text (Job(03)/150 of 18 July 2003) simply takes note of the progress made in the WGTTT and agrees that the Group's work 'shall continue to be based on the mandate contained in paragraph 37 of the Doha Declaration'. See Doha Round Briefing Series, International Centre for Trade and Sustainable Development, Vol. 2 No. 11 of 13, August 2003.

The Doha Ministerial Declaration introduced for the first time in the WTO a binding mandate for WTO Members to examine the relationship between trade and technology transfer.¹⁷¹ As this chapter has discussed, there are a number of provisions within the WTO covered Agreements that can be enforced to ensure that the international process of technology transfer can be better achieved, for example Articles 7, 31, 40, 65 and 66 of the TRIPS Agreement. However, as Roffe and Tesfachew have argued, there has perhaps been too much concentration of analysis on the imperfections of the international technology transfer process and not enough on the domestic absorptive and adaptation capacity of the host country.¹⁷² If DCs and LDCs are truly to benefit from technology transfer, more attention has to be paid to improving host country legislation on technology transfer in terms of making it more effective in attracting foreign investment, creating spillover and also in dealing with potential abuses of market power by MNCs. As mentioned earlier, this is no easy task given that many DCs and LDCs do not have adequate resources to put such competition legislation into effect, even if the know-how was available.

What would be the objective of introducing better provisions on competition into host country legislation? Abbott argues that the ‘promotion of technology transfer through competition policy involves assuring that technical information appropriately enters the public domain (i.e., private appropriation of technology should not impose unreasonable social welfare costs), preventing and correcting market-related abuses, and assuring that granting of patents and other IPRs are accomplished in a measured way’.¹⁷³ Simply copying the patent systems of the US and EU may not be the best step forward. Abbott cites a recent Federal Trade Commission (FTC) study of competition and patents in United States that focuses on the anti-competitive risks of overprotection, including through the grant of patents of suspect quality.¹⁷⁴ He argues that the thrust of the FTC Report is that ‘the competition enforcement proceedings are a costly and inefficient mechanism for addressing the adverse impact of patent overprotection, as compared with reducing the grant of low quality patents and facilitating early challenges. Promoting greater vigilance over the granting of patents is characterized as “competition” policy.’¹⁷⁵ Muchlinksy argues:

¹⁷¹ Ibid.

¹⁷² Roffe, P., and Tesfachew, T., ‘Revisiting the Technology Transfer Debate: Lessons for the New WTO Working Group’, at <http://www.ictsd.org>, accessed October 2004.

¹⁷³ Abbott, F., ‘The Competition Provisions in the TRIPS Agreement: Implications for Technology Transfer’, Joint WIPO-WTO Workshop Intellectual Property Rights and Transfer of Technology, November 2003, p. 2.

¹⁷⁴ US Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, October 2003.

¹⁷⁵ Ibid.

. . . the true problem for LDCs is not so much that patents are taken out by foreign firms, but that the major producers of technology tend to possess considerable market power to which the protection of intellectual property is no more than a subsidiary form of protection. This suggests policy responses in other fields of law, especially competition law.¹⁷⁶

The challenge then for DCs and LDCs is to find a way to overcome the lack of resources to put in place the legislation and infrastructure required for effective competition authorities in the absence of funding, for example through the World Bank or WTO. Although external consultants can be funded to draft the necessary competition legislation, recruiting local skilled personnel to enforce the new legislation is another matter. Perhaps what is required is a mix of both sector-specific (*ex-ante* technology transfer) measures that set out basic rules on technology transfer in advance, for example in the setting of price controls and compulsory licensing by government, as well as general competition type (*ex-post*) provisions which deal with issues of discrimination, transparency and unfair competition. We need however to distinguish between the two sets of laws, antitrust (competition) and technology transfer. As Muchlinsky argues,

unlike antitrust laws, technology transfer laws seek to intervene in the operation of commercial markets in technology and regulate them in favour of the broader national economic interest in economic development. Although the use of antitrust laws as an instrument of national or regional industrial policy is often debated, its primary aim is to prevent anti-competitive practices in the market, not to control it.¹⁷⁷

Bearing these points in mind, precedent does exist for a combined approach. For example, and as mentioned earlier, the European Commission has recently adopted a revised Technology Transfer Block Exemption Regulation¹⁷⁸ as well as a series of new directives that adopt a mix of *ex-ante* and *ex-post* provisions for regulating electronic networks and services.¹⁷⁹ Article 12 of the Access and Interconnection Directive¹⁸⁰ is a very good example of where the EC uses a combined *ex-ante* and *ex-post* approach in dealing with anti-competitive practices with regard to the granting of access to an electronic network or software protocol or interface:

¹⁷⁶ Muchlinski, *supra* note 8, p. 441.

¹⁷⁷ *Ibid.*, p. 443.

¹⁷⁸ Commission Regulation 772/2004 (April 2004).

¹⁷⁹ See for example the EC's Framework Directive 2002/21/EC and Access and Interconnection Directive 2002/19/EC as good examples of such combined *ex-ante/ex-post* instruments.

¹⁸⁰ Directive 2002/19/EC.

A national regulatory authority may, in accordance with the provisions of Article 8, impose obligations on operators to meet reasonable requests for access to, and use of, specific network elements and associated facilities, inter alia in situations where the national regulatory authority considers that denial of access or unreasonable terms and conditions having a similar effect would hinder the emergence of a sustainable competitive market at the retail level, or would not be in the end-user's interest.

By doing this, the EC gives a great deal of discretion for National Regulatory Authorities (NRAs) to act and impose access conditions in agreements between operators so as to create effective competition: NRAs can impose access conditions even in the absence of any one operator having dominance in a particular market.¹⁸¹ In this instance, there may be no need for the NRA to conduct an extensive demand and supply-side substitutability test as regards the imposition of access obligations. In other words, access is seen as an area where immediate remedies may be required without the need for expensive and time-consuming market analysis.

However there are dangers of the enforcement by LDCs and DCs of measures of this type. Enforcement of host country competition provisions on MNCs, for example, could result in threats of trade and/or financial retaliation by developed country governments. To avoid the risk of this kind of retaliation, LDCs and DCs could make better use of regional trade or economic area agreements, where a common set of rules (both *ex-ante* and *ex-post*) for technology transfer could be adopted and integrated into the framework of the regional agreement.¹⁸² For example, to help maintain a level of consistency of regulatory treatment amongst European NRAs, the EC has included harmonisation-type clauses at Articles 6 and 7 Framework Directive, which require NRAs to consult with the EC in introducing measures which would have a significant effect on the European internal market.¹⁸³ In a similar way, by harmonising competition provisions within the framework of a regional trade agreement, LDCs/DCs could have a better chance of enforcing such provisions against MNCs at a national level. Furthermore, the competition schedule/chapter/section of a regional trade agreement could provide for the creation of a regional competition advisory body that could supply resources

¹⁸¹ In the EC's new regulatory framework, dominance is equivalent to Significant Market Power as defined in Article 14 Framework Directive.

¹⁸² Utilising, for example, sections of UNCTAD's draft Code on Transfer of Technology and also provisions on Science and Technology, and Competition from the OECD's Guidelines for MNCs. See also UNCTAD's excellent *Chapter of International Arrangements on Transfer of Technology: Selected Instruments*, UNCTAD/ITE/IPC/Misc.5, 2001, which contains a detailed analysis of a number of technology transfer clauses used in IIAs/BITs.

¹⁸³ Directive 2002/21/EC.

and skills to member governments, which all parties to the regional agreement could help fund, minimising the expense for a country in creating its own extensive infrastructure. Given the proliferation of regional trade agreements in recent years, consensus between regional trade partners with similar trade interests may be easier to achieve than creating a competition agreement or compact at the level of the WTO. As Balasubramanyam and Elliott argue:

The WTO is often dismissed as an inappropriate forum, simply because its mandate is restricted to trade and not investment, and whilst the organisation can parley with the governments of member countries on trade issues, it cannot negotiate with MNEs which are privately-owned.¹⁸⁴

What type of provisions could be included in a competition chapter of a regional trade agreement? A starting point could be greater cooperation between competition authorities in developing and developed countries, licensing rules to reduce the transaction costs of enforcement, and punitive damages (for example, triple damages) as a warning to prospective violators.¹⁸⁵ To this list can be added best-practice recommendations from both the OECD's MNC Guidelines as well as sections on restrictive business practices from the (now defunct) UNCTAD's draft Code of ToT,¹⁸⁶ discussed earlier. Regional measures might go hand in hand with changes in WTO procedure. For example, Abbot argues that the 'WTO DSU might be expanded to include remedial measures directed at patent holders that initiate threats of trade sanctions by home government as "abuse of dominant position" including, in egregious cases, recommendation of patent forfeiture', as well as the desirability of increasing technology and information in the public domain.¹⁸⁷ Although Balasubramanyam and Elliott generally conclude that the WTO might be an appropriate body to take responsibility for a future multilateral competition policy,¹⁸⁸ they also argue that the WTO's Dispute Settlement

¹⁸⁴ Balasubramanyam and Elliott, *supra* note 1, p. 306. However, in the chapter the authors generally conclude that the WTO may be an appropriate body to take responsibility for future multilateral competition policy developments, p. 311.

¹⁸⁵ Abbott, *supra* note 173, p. 4. See also examples of sanctions that can be applied in a personal capacity to directors of companies that infringe the UK's *Competition Act 1998*.

¹⁸⁶ Major disagreement between the DCs and LDCs (Group of 77) and the developed countries (Group B) on the draft UNCTAD ToT Code seemed to focus on Chapter 4 (regulation of restrictive business practices) and Chapter 9 (applicable law and settlement of disputes). For a more detailed treatment, see Muchlinski, *supra* note 8, which also cites Blakeney, M., *Legal Aspects of the Transfer of Technology to Developing Countries*, p. 445, ESC Publishing, 1989 at pp. 133–61.

¹⁸⁷ Abbott, *supra* note 173.

¹⁸⁸ Balasubramanyam and Elliott, *supra* note 1, p. 310.

Body is primarily interested in resolving disputes between competition authorities as opposed to disputes between individual firms.¹⁸⁹

The point made by Abbott on increasing access to information in the *public domain* has also been gaining considerable ground in academic thinking in recent years. Perhaps one of the most influential advocates of the public domain has been Lawrence Lessig of Stanford University. Lessig, together with colleagues from Harvard's Berkman Center for Internet & Society, have pioneered the concept of the *Creative Commons*, which seeks to use *copyleft* licensing to encourage rights holders to place their work in the public domain.¹⁹⁰ Clearly, as more innovators in the developed world seek to use copyleft licensing and vehicles such as the Creative Commons, more producers in the LDCs and DCs stand to gain, subject of course to *their* continued use of the copyleft mantra in terms of derivative works produced. A very good example of this is the *Free and Open-Source Software* (FOSS) movement and GNU/Linux. FOSS is software that has made its source code public and allows users to change the source code and redistribute the derivative software. GNU/Linux is an operating system developed, originally as a UNIX-like kernel by Linus Torvalds, on the open-source model and which has now become a serious competitor to proprietary Microsoft products. Allowing access to the source code allows for broad collaborative development in software production, better porting between different applications and programs produced by independent developers, and the customisation of software to meet local needs.¹⁹¹ As a recent UNCTAD report states,

¹⁸⁹ The recent WTO DSB case of a dispute on network interconnection payments between Mexico and the United States is a good example of this. See *Mexico – Measures Affecting Telecommunication Services*, Case DS204, June 2004.

¹⁹⁰ To see the *Creative Commons Deed* and for more information on copyleft licensing see the Creative Commons website at: <http://creativecommons.org/>, accessed October 2004. The Free Software Foundation has developed a standard copyright agreement, the GNU General Public License (GPL), often called 'copyleft', which seeks to replace traditional copyright. The GPL attempts to deter programmers from closing the source code of a FOSS computer program and prevent the program from being developed in a proprietary environment. The GPL needs to be distinguished from the licences (based on the Open Source Definition) produced by the Open Source Initiative (OSI), another open-source movement founded in 1998. While the GPL *requires* any redistribution of GPL software to be released under a GPL licence only (to stop the code being closed off), licences based on the OSI's Open Source Definition allow redistribution under the same terms, but do not require it. In other words, programmers can take OSI software and go on to release modified software under new terms that include making it proprietary. As such, OSI has become very attractive to industry giants such as IBM and Oracle. For a more detailed discussion of Open Source, see the excellent chapter in UNCTAD's *E-Commerce and Development Report*, 2003 (chapter 3: 'Free and Open-Source Software: Implications for ICT Policy and Development').

¹⁹¹ UNCTAD, *E-Commerce and Development Report 2003*, p. 95.

Its technological opposite, closed-source or proprietary software . . . requires a significant upfront investment in license fees for installation and upgrades: it is not always adaptable to local concerns; and its exclusive or even dominant use may not adequately support the local development of the expert knowledge and skills needed to fully embrace the information economy.¹⁹²

The UNCTAD report argues that a business or government using FOSS could avoid becoming locked into using software manufactured by a controlling monopolist,¹⁹³ and that ‘freeing the source code makes software non-excludable as well, and as a result software acquires the characteristics of a public good’.¹⁹⁴ For developing countries,¹⁹⁵ however, freeing up the software would be of no use without the corresponding hardware and networks through which the software will flow. This is particularly important given that with the advent of digital networks, intelligence is moving closer to the end-user terminal, resulting in cheaper transmission costs and greater positive network externalities for those countries that have the resources to upgrade their legacy networks. There is no reason, however, why such digital networks that are proliferating in the developed world should expand geographically into the developing world, unless we have enlightened policy that will allow for it. This is one reason why the talks in Tunis in 2005, as part of the second phase of the *World Summit on the Information Society*, must succeed, at least in part.¹⁹⁶ Maskus argues for the need to take the commons to the *multilateral* level. He argues for:

. . . a Multilateral Agreement on Access to Basic Science and Technology (ABST). An agreement at the WTO would be negotiated in which all signatories would place into the public domain, or find other means of sharing at modest cost, the results of publicly funded research. The idea is to preserve and enhance the global commons in science and technology, while setting out a public mechanism for increasing the international flow of technical information, especially to developing countries, without unduly restricting private rights in commercial technologies.

¹⁹² Ibid.

¹⁹³ Ibid, p. 100.

¹⁹⁴ Ibid, p. 106.

¹⁹⁵ Developing country public sectors (for example, South Africa, India, China) have already to begun to use FOSS and encourage it in the private sector for three basic reasons: (1) a desire for independence from being tied in to proprietary products; (2) the need for security, given that to guarantee national security, governments should not have to rely on systems controlled at a distance; and (3) new IPR enforcement on proprietary systems where excessive copyrighting and patent hoarding diverts funds from R&D in the host country to patent acquisition and royalty payments. See *E-Commerce and Development Report*, 2003, p. 113. Singapore, through its Economic Development Board, is providing tax incentives for companies who use GNU/Linux as an operating system as opposed to proprietary applications. Ibid at p. 116.

¹⁹⁶ Discussed earlier in Chapter 7 at Section 7.6.

The agreement could cover ‘input liberalization,’ which would permit researchers from other countries to participate in, or compete with, local research teams for grants and subsidies. This could be combined with increased opportunities for temporary migration of scientific personnel and additional student visas.¹⁹⁷

The idea of getting consensus at the WTO between developed and developing Members post-Doha on such a treaty would seem to be quite unlikely in the short term.¹⁹⁸ However, given that Lessig has been successful in launching the Creative Commons in both the US and the UK, and that the idea is soon set to take off in many other countries as well, Maskus may not be so far out of the ballpark as one might imagine. Perhaps, again, there is a need to focus first on the regional level: in Africa, a number of regions have already collaborated on FOSS, launching the Free and Open Source Software Foundation for Africa (FOSSFA), which seeks to promote the use of FOSS throughout the region.¹⁹⁹ ‘FOSSFA anticipates that FOSS will provide opportunities to develop local programmes built by Africans for use in Africa’.²⁰⁰ Perhaps it is only through such regional organisations, such as FOSSFA, that funds can be mobilised and channelled and links made with educational institutions, whereby educators can be trained to help young people across the region to ‘learn, use, maintain, and modify software’.²⁰¹ As Theodore Roosevelt once said: ‘Great corporations exist only because they are created and safeguarded by our institutions; and it is our right and our duty to see that they work in harmony with these institutions. . . . The first requisite is knowledge, full and complete; knowledge which may be made public to the world’.²⁰² It would appear that his words have as much resonance now as they did in 1901.

¹⁹⁷ Maskus, K., *ICTSD-UNCTAD Dialogue, 2nd Bellagio Series on Development and Intellectual Property*, September 2003, p. 14. This proposal was first discussed by Barton, J., in ‘Preserving the Global Scientific and Technological Commons’, Stanford University manuscript, 2003.

¹⁹⁸ For example, at the recent World Summit on the Information Society (WSIS) in December 2003, some of the poorest countries advocated the creation of a *Digital Solidarity Fund*, envisioned as a UN-administered fund to help technologically disadvantaged countries build telephone lines and other infrastructure in an effort to keep the digital and the wealth gap from widening further. No agreement on the fund could be reached in Geneva, and the idea was postponed to the second phase of talks in Tunis in 2005 where only voluntary agreement was reached.

¹⁹⁹ UNCTAD, *E-Commerce and Development Report*, 2003, p. 116.

²⁰⁰ *Ibid.*

²⁰¹ *Ibid.* For a detailed case study on the use of ICT in development, see the case study on Jamaica written by the author ‘Readiness for the Networked World: Jamaica Assessment’ at: <http://cyber.law.harvard.edu/home/2002-01>.

²⁰² See quotes from the Stakeholder Alliance at: <http://www.stakeholderalliance.org/Buzz.html>.

This chapter has reviewed technology transfer from the perspective of DCs and LDCs. As mentioned in Chapter 1, and also in Chapter 2, when linking the significance of technology transfer to addressing the Digital Divide, unless and until DCs and LDCs are able to improve their access to technology both for the purposes of innovation in their own domestic markets, but also for the purpose of exporting new products overseas, DCs and LDCs will not be able to effectively address Digital Divide issues. To implement the Layering Theory described in Chapter 5 in some of the more advanced developing countries (able to incorporate it) will require technology transfer. The key will be in enforcing the provisions of Article 66.2 TRIPS in terms of enforcing special and differential rights in technology transfer by developed nations in favour of DCs and LDCs. In Chapter 10, the author suggests a new *Right to Development Tax Relief* which seeks to encourage technology transfer to developing countries by the international business community, and which requires the WTO's Working Group on Trade and Transfer of Technology to take a more proactive role in developing guidelines for beneficial technology transfer, as well as developed country administrations adopting domestic legislation to bring the RTD Tax Relief into force. To some extent, the negotiation of IPRs and technology transfer between Member States of the WTO is also influenced by the bilateral and free trade agreements that often contain restrictive provisions on the use of IPRs by domestic producers and restrictions on performance requirements for technology transfer by foreign investors. Quite often, bilateral and FTAs can lead to DCs and LDCs offering TRIPS-plus provisions in order to attract FDI, which can severely affect their ability to make domestic policy decisions on their own IPR regimes. Bilateralism and FTAs are discussed in the next chapter, Chapter 9.

9. Bilateralism and intellectual property rights*

9.1 INTRODUCTION

Chapter 8 discussed IPRs and technology transfer and particularly the application of the TRIPS and its effect on DCs and LDCs. Alongside the TRIPS, there has been a rapid increase in the number of bilateral trade and Free Trade Agreements (FTAs) in the last few years. For example, the number of bilateral investment treaties (BITs) covering Foreign Direct Investment (FDI) in services reached 2,265 by the end of 2003, and involved 175 countries.¹ By year-end 2004, this number had increased by a further 73 new BITs (World Investment Report, 2005). As mentioned in Chapter 8, the 2004 report on investment from UNCTAD records the entry of FDI into the services market.² The reasons why such agreements are negotiated include, for LDCs and DCs, increased options for attracting foreign investment for development on the one hand, and on the other, increased certainty for foreign investors that their investments will be secure, as well as increasing market access and better conditions for national treatment for MNCs (than perhaps provided by LDCs' or DCs' special commitments under the GATS). However, both BITs and FTAs have the potential to seriously restrict the independence of DCs and LDCs in determining their own national policies on IPRs, competition and investment and hence can slow the process of innovation and technology diffusion, seriously impeding a nation's opportunity to close the Digital Divide. As mentioned in Chapter 8 (Section 8.6), to partly offset the negative aspect of RTAs, the WTO has recently adopted a RTA *transparency mechanism* that will require parties to the potential RTA to notify the WTO Secretariat of trade statistics, preferential tariffs and data on FDI (amongst other indicators) before the RTA is finalised. As noted in Section 8.6, the state of the Doha Round has accelerated interest by the Quad countries in RTAs with potentially damaging implications for the WTO.

* A version of this chapter was published in *Human Rights and Capitalism* (eds Janet Dine and Andrew Fagan), Edward Elgar, 2006.

¹ UNCTAD, *World Investment Report*, 2004, p. 221.

² *Ibid.*

9.2 PERFORMANCE REQUIREMENTS

BITs and FTAs come at a price. For example, a number of BITs contain prohibitions on certain *performance requirements* (introduced in Chapter 8³) with regard to technology transfer, where restrictions are imposed at the expense of LDCs and DCs. This is particularly the case with NAFTA, which in its performance requirements sections, prohibits the imposition or enforcement by a Party of requirements ‘to transfer technology, a production process or other proprietary knowledge to a person in its territory’ in connection with the admission or treatment of an investment of an investor of any Party or non-Party (unless required to do so by a competition authority).⁴ Similar technology transfer performance requirements can be found in other FTAs.⁵ The bilateral investment treaties of the United States also often include a prohibition of mandatory requirements ‘to carry out a particular type, level or percentage of research and development’ in the territory of a party.⁶ Although performance requirements restricted only to controlling the competitive conditions of a market may be good for the general economic development of the host LDC or DC, more extensive requirements as to the generation, transfer and diffusion of technology, which go beyond competition-related issues, could also be prohibited under performance requirement restrictions.⁷ Therefore, the conclusion that must be drawn is that LDCs and DCs interested in including development-oriented clauses in the International Investment Agreement (IIA)/BIT/bilateral trade agreement or FTA which touch on local personnel training requirements or the regulation of royalty payments by the developing country licensee would be restricted from doing so by potential restrictions on performance in the respective agreement.⁸

³ See the section on ‘International Investment Agreements and Technology Transfer’ (Section 8.6).

⁴ Article 1106(1)(f) NAFTA. See also WT/WGTI/W/136, para. 28.

⁵ ‘See e.g. Art. G-06 of the Free Trade Agreement between Canada and Chile (1996); Art. 15-05 of the Free Trade Agreement between Bolivia and Mexico (1994); Art. 9-07 of the Free Trade Agreement between Chile and Mexico (1998); and Art. 14-07 of the Free Trade Agreement between Mexico, El Salvador, Guatemala and Honduras (2000). These free-trade agreements also include a prohibition of requirements imposed on investments to act as exclusive suppliers of goods or services to a specific region or to the world market’ (cited from WT/WGTI/W/136 at note 85).

⁶ WT/WGTI/W/136, para. 34, which cites Art. VI(f) of the bilateral investment treaty between the US and Bolivia (1998) as an example.

⁷ UNCTAD, *Transfer of Technology*, UNCTAD/ITE/IIT/28, 2001, p. 96.

⁸ There may be scope however to include performance requirements in the IIA, if the investor is to receive an ‘advantage’ under the agreement, provided that the contracting state providing the technology has not prohibited performance requirements in any other IIA. *Ibid.*, p. 97. See also the *OECD’s Guidelines for Multinational Enterprises* that look to set requirements on MNCs to cooperate in the technology and science policy of the

As UNCTAD's *World Investment Report* points out, 'IIAs covering services FDI are proliferating at the bilateral, regional, and multilateral levels. The resulting network of international rules on FDI in services is multifaceted, multilayered and constantly evolving, with obligations differing in geographical scope and substantive coverage. These rules are increasingly setting the parameters for national policies in the services sector.'⁹ In fact, it would seem that much of the impetus for the negotiation of Free Trade Agreements (FTAs) for example by the United States lies outside merchandise trade: rules on liberalising services, IPRs, the environment, labour standards and provisions for capital transfers are now standard components of US FTAs.¹⁰

The United States in particular has been using bilateral and regional FTAs to impose TRIPS-plus intellectual property standards on LDCs and DCs that exceed WTO rules. Recent FTAs negotiated by the USA include *US–Chile* (2003), *US–Jordan* (2000), *US–Morocco* (2004), *US–Singapore* (2003), *US–Central America Free Trade Agreement* (CAFTA-2004), *US–Morocco* (2004) and *US–Australia* (2004).¹¹ Other FTAs are currently in the pipeline, including the Free Trade Area of the Americas, Andean Countries, Thailand, Panama, Bahrain and Southern African countries.¹²

The failure of the negotiations at Cancun to achieve any overall consensus in September 2003 led eventually in July 2004 in Geneva to some movement on the part of the Quad countries (USA, European Communities, Canada and Japan) in recognising developing country concerns on failure to reach agreement or honour existing developed country obligations on core trade issues, such as agricultural subsidies, cotton, primary commodities, TRIPS and health, and non-agricultural market access. Without further progress in favour of developing countries on these issues, three out of the four Singapore Issues wanted by developed countries as part of the Doha agenda – Investment, Competition and Transparency in Government Procurement – were dropped from the Doha Round agenda.¹³ Although this could be seen as evidence of LDCs and DCs being able to influence the Doha negotiating agenda, in reality the Quad countries, and in particular the United States, have circumvented the difficulties of negotiating in a multilateral forum by pursuing exactly the same

host country and prevent abusive practices (Sections VIII and IX respectively) at: <http://www.oecd.org/dataoecd/56/36/1922428.pdf>.

⁹ UNCTAD, *World Investment Report*, 2004, p. 235.

¹⁰ Hilaire, A., and Yang, Y., 'The United States and the New Regionalism/Bilateralism', IMF Working Paper WP/03/206, October 2003, p. 5.

¹¹ See also US–Bahrain (2001).

¹² See Oxfam Briefing Report, 'Undermining Access to Medicines', Oxfam International, June 2004.

¹³ However, the issue of trade facilitation still remains on the Doha agenda.

issues of investment, transparency and competition in bilateral trade agreements and FTAs. Also included are provisions on the protection of intellectual property rights, which go beyond the protections offered by the TRIPS Agreement, so-called TRIPS-plus provisions. For example, in the area of compulsory licensing provided for by Article 31 TRIPS, which allows Members to temporarily override a patent in the public interest, Members can determine for themselves the circumstances under which they can use this provision when confronted with a public health problem, such as a national emergency or epidemic.¹⁴ Article 31 does, however set restrictions as to how the clause should apply. For example, before issuing a compulsory licence, Members must first attempt to obtain a licence from the patent holder within a reasonable time and on reasonable terms¹⁵ (unless a national emergency applies in which case the requirement can be waived). Suppliers of the product under the compulsory licence can include government entities or parties authorised by the government to sell on the commercial market, but exports outside the domestic market are restricted¹⁶ (although this position has now been modified with the adoption of the August 2003 Agreement to lift TRIPS restrictions on compulsory licensing for export of medicines – mandated under paragraph 6 of the Doha Declaration on TRIPS and Public Health¹⁷). However, even with the TRIPS provisions in place, measures included by the US in various FTAs dilute the operation of Article 31 TRIPS on compulsory licensing. In Section 1711 (Articles 5, 6 and 7) of the NAFTA agreement, compulsory licensing is not permitted for the first five years following product registration due to provisions protecting data exclusivity (provisions protecting test data). Similarly in the FTAA agreement, the provisions on compulsory licensing are restricted to remedying anti-competitive behaviour, to national emergencies and to public non-commercial use.¹⁸ Furthermore, the same provisions prevent the export of generic medicines produced under a compulsory licence and specifically allowed for under the August 2003 ‘paragraph 6’ solution mentioned above. Clearly, such provisions are TRIPS-plus. Other measures used in bilateral and FTAs that are TRIPS-plus include requirements to extend patent protection beyond the 20-year period required under the TRIPS, which in effect would delay the production of generic medicines. Also included are provisions giving patent holders the right to block *parallel importation*, which again in the health sector, will limit the ability of governments to obtain patented medicines placed

¹⁴ Article 31(a) TRIPS.

¹⁵ Article 31(b).

¹⁶ Article 31(f).

¹⁷ Decision of the General Council August 2003, *Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and public health* (WT/L/540).

¹⁸ Section B.2e, Article 6 FTAA.

on foreign markets at cheaper prices,¹⁹ and which flies in the face of paragraph 5c of the Doha Declaration, specifically allowing for Members to establish their own regimes for exhaustion of rights without challenge and subject only to MFN and national treatment provisions under Articles 3 and 4 TRIPS.²⁰ In the technology sector, under the *US–Jordan* FTA, each party must give effect to selected provisions of the WIPO Internet Treaties,²¹ neither of which is currently part of TRIPS, and which are therefore TRIPS-plus provisions.

Some agreements, such as the *US–Nicaraguan* bilateral investment treaty, do not specifically mention intellectual property rights, but refer within the wording of the agreement to treaties that do cover IP rights, such as the TRIPS Agreement. Often, activities involving the use of IPRs (such as licensing technology transfer to a producer in a LDC or DC) will be covered by the investment treaty, as such activities will be classed as a ‘covered investment activity’. If the target LDC or DC then puts in place a measure that might restrict the protection of an investor’s IPR, for example by issuing a compulsory licence covering that technology, the US might argue that such a measure will have the effect of ‘impairing by unreasonable and discriminatory measures the management, conduct, operation . . . of covered investments’.²² In other words, could a DC or LDC issuing a compulsory licence constitute an investment expropriation under the investment treaty?²³ The issue of whether or not an IPR can constitute an ‘investment’ is an important one, as generally investment agreements provide for direct investor-to-state dispute settlement, whereas trade agreements in general only provide for state-to-state dispute settlement.²⁴ Investor-to-state dispute settlements provide for arbitration

¹⁹ See Article 16.7(2) *US–Singapore* FTA.

²⁰ Clearly one way of dealing with the problem of patent rights attaching to imported medicines is for LDCs to take advantage of the extended deadlines for LDCs agreed at Doha which allow LDCs to exclude pharmaceutical products from patenting under TRIPS until at least 2016 in order to gain access to cheaper generic versions of new medicines.

²¹ WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty.

²² Drahos cites this example by referring to Article II.3(b) of the *US–Nicaraguan* Bilateral Investment Agreement (supra note 26).

²³ Expropriation clauses generally protect against loss of the insured investment as a result of acts by the host government that may reduce or eliminate ownership of, control over, or rights to the insured investment. In addition to outright nationalisation and confiscation ‘creeping’ expropriation – a series of acts that, over time, have an expropriatory effect – is also generally covered under an ‘expropriation clause’. See the World Bank Group’s Multilateral Investment Guarantee Agency at: <http://www.miga.org/screens/pubs/guides/invest.htm>, accessed, February 2005.

²⁴ Fink, C., and Reichenmiller, P., ‘Tightening TRIPS: The Intellectual Property Provisions of Recent US Free Trade Agreements’, Trade Note 20, World Bank, February 2005, p. 7.

awards for uncompensated expropriation, whereas state-to-state settlements generally only provide for the imposition of punitive trade sanctions.²⁵

Furthermore such provisions could seriously impact an LDC's or DC's ability to freely determine its domestic agenda on IPRs, given the *Most Favoured Nation* (MFN) provision set out at Article 4 TRIPS. MFN requires that a member that grants any advantage, favour, privilege or immunity to the national of any other country (not necessarily a member of TRIPS) must accord the same to the nationals of other TRIPS Members. Note that although the provision does not apply to bilateral agreements agreed *prior* to the coming into force of the WTO Agreement, but to any agreement signed *thereafter*, the effect of Article 4 is to oblige any LDC or DC that has signed a bilateral trade agreement or FTA with the US, for example, containing some of the provisions set out above, to grant similar rights to all other WTO Members. In effect, the MFN principle when coupled with bilateral agreements or FTAs will benefit any country that is a primary exporter of intellectual property rights, generally the Quad countries. Therefore, as a consequence of the operation of Article 4 TRIPS, when the US negotiates such restrictions on the use of IP, the European Communities, Japan and Canada will benefit and vice-versa. Peter Drahos has described this process as the 'Global IP Ratchet': when the US and the EU between them have negotiated enough bilateral agreements containing TRIPS-plus standards, those standards will in effect become the *minimum standards* required in any future WTO trade round.²⁶ From the perspective of DCs and LDCs, therefore, the WTO then becomes the agent not so much for facilitating trade and increasing market access for both developed and developing nations, but specifically for the developed world in extracting concessions on IPRs that had never been agreed at the multilateral level by the G-90 (coalition of developing countries).

As a recent Oxfam paper makes very clear: 'Countries should not have to expend huge amounts of time and political capital to gain consensus at the WTO, and then have these efforts undermined by a US strategy that depends on unequal negotiating power to pick off developing countries one by one'.²⁷ In effect, LDCs and DCs may well find themselves trapped in a pincer movement, on the one hand, negotiating bilateral trade agreements or FTAs with powerful actors such as the US to attract FDI, and on the other, entering into bilateral trade agreements as a consequence of a provision in the US Trade Act 1974 (s. 301), which allows the United States Trade Representative (USTR) to

²⁵ Ibid.

²⁶ Drahos, P., *Bilateralism in Intellectual Property*, Oxfam Report: 'Cut the Costs of Medicines Campaign', 2001, p. 13.

²⁷ *Undermining Access to Medicines: Comparison of Five US FTAs*, Oxfam briefing report, Oxfam International, June 2004, pp. 2–3.

deal with foreign unfair trading practices, including practices involving intellectual property rights. Section 301 specifically allows the USTR to take all ‘appropriate and feasible action’ to remove foreign trade barriers that hinder US exports to third country markets.²⁸ A section 301 investigation may result in a bilateral agreement between the US and the target state, or failing that, the imposition of trade sanctions, although this is rare. More countries are now subject to section 301 investigations than before, possibly as a consequence of the number of reviews (out-of-cycle reviews) being increased over time.²⁹

Other provisions in US domestic law effectively lock the United States into a very tightly defined negotiating position when negotiating IPRs protection in the international forum, which will at times put the US at odds with its agreed position at the WTO (see below). For example, the US Trade Act 2002 (fast-track authority) states:³⁰

The principal negotiating objectives of the United States regarding trade-related intellectual property rights are:

- (A) to further promote adequate and effective protection of intellectual property rights, including through –
 - (i) (I) ensuring accelerated and full implementation of the Agreement on Trade-Related Aspects of Intellectual Property Rights referred to in section 101(d)(15) of the Uruguay Round Agreements Act (19 U.S.C. 3511(d)(15)), particularly with respect to meeting enforcement obligations under that agreement; and
 - (II) ensuring that the provisions of any multilateral or bilateral trade agreement governing intellectual property rights that is entered into by the United States reflect a standard of protection similar to that found in United States law;
 - (ii) providing strong protection for new and emerging technologies and new methods of transmitting and distributing products embodying intellectual property;
 - (iii) preventing or eliminating discrimination with respect to matters affecting the availability, acquisition, scope, maintenance, use and enforcement of intellectual property rights;

²⁸ Section 301 allows the USTR to respond to any act, policy or practice of a foreign country that is determined to be: (1) inconsistent with the provisions of, or otherwise denies benefits to the United States under any trade agreement; or (2) unjustifiable, unreasonable, or discriminatory and burdens or restricts US commerce. In the context of the US and a specific foreign country, national treatment focuses on whether US firms operating in that country are treated as favourably as firms of the foreign country are treated in the US, and MFN refers to best treatment accorded to firms from any other country operating in a specific country. For a more complete analysis, see Coughlin C., ‘U.S. Trade–Remedy Laws: Do they Facilitate or Hinder Free Trade’, Federal Reserve Bank of St Louis, USA, July/August 1991.

²⁹ Drahos, *supra* note 26, 2001, p. 4.

³⁰ Section 2102(4), Trade Act 2002 (fast-track authority), 19 USC 3801, 6 August 2002, HR3009.

- (iv) ensuring that standards of protection and enforcement keep pace with technological development, and in particular ensuring that rightholders have the legal and technological means to control the use of their works through the Internet and other global communication media, and to prevent the unauthorized use of their works; and
 - (v) providing strong enforcement of intellectual property rights, including through accessible, expeditious, and effective civil administrative, and criminal enforcement mechanisms;
- (B) to secure fair, equitable, and non-discriminatory market access opportunities for United States persons that rely upon intellectual property protection; and
- (C) to respect the Declaration of the TRIPS Agreement and Public Health, adopted by the World Trade Organization at the Fourth Ministerial Conference at Doha, Qatar on November 14, 2001.³¹

From the above section of the US Trade Act 2002, three points become immediately obvious: (i) that under subsection A(i)(II) above, US domestic law requires US trade negotiators to seek international IPR protection *commensurate* with US domestic law, which when considering the US DMCA 1998, is one of the most advanced legislative frameworks for the protection and enforcement of IPRs in the world, providing provisions most certainly in excess of the standards required by TRIPS; (ii) that under subsection A(iv) above, negotiators must seek provisions that will protect digital rights management technology (and indirectly anti-circumvention technology) not currently reflected in the TRIPS (but in the WIPO Internet treaties for example); and (iii) under (C) above, to respect the Doha Declaration on TRIPS and public health. As mentioned above, the difficulty is that US domestic law requires US trade negotiators to negotiate provisions within bilateral trade agreements that either exceed current WTO law (TRIPS) or place the US at odds with agreed WTO understandings (Doha Declaration on TRIPS and public health).³² Therefore, unless and until the US Trade Act 2002 is amended by the US Senate and Congress to reflect the position agreed by the US government at the multilateral level, any further discussion of the policy objectives of US Aid

³¹ Source: <http://waysandmeans.house.gov/>, last accessed February 2005.

³² For example by restricting parallel importation in trade partner countries. It is important to note that in certain agreements, such as the US–Morocco and US–Bahrain agreements, the USTR has clarified in *side-letters* to the agreements that if circumstances were to arise and a drug was required by way of a compulsory licence to protect public health, then certain restrictions in the FTAs (such as on data protection) would not apply, that is, the FTAs would not interfere with the protection of public health. In the same side-letters however, the USTR also makes clear that the side-letters do not create any kind of exemption that would allow parties to the FTAs to ignore obligations in the agreements. See Fink, C. and Reichenmiller, P., ‘Tightening TRIPS: The Intellectual Property Provisions of Recent US Free Trade Agreements’, Trade Note 20, World Bank, February 2005, p. 3.

being in line with US policy on international trade will likely be considered rhetoric. For example, the development arm of the US government (USAID) refers to a recent report outlined on its website that:

At least for the next generation, U.S. strategy for reducing poverty in developing countries must focus on promoting growth in poor countries. Growth in such countries is good for the poor. New data eliminates any doubt that rapid economic growth reduces poverty.³³

Given US trade interests as reflected in the Trade Act 2002 as discussed above, could such provisions on trade in intellectual property help promote the kind of economic growth that USAID is referring to? Most DCs and LDCs as a collective are net *importers* of intellectual property, and mainly sourced from the developed countries. In a recent report by the *Commission on Intellectual Property Rights* (CIPR), the Commission cites an estimate from the World Bank suggesting that most developed countries would be the major beneficiaries of the TRIPS, with the US alone benefiting from patents by an annual \$19 billion.³⁴ Developing countries and a few developed ones would be the net losers. The Commission states that in 1999, figures from the World Bank indicate a deficit for developing countries for which figures are available of \$7.5 billion on royalties and licence fees.³⁵ Clearly growth for DCs and LDCs will come more directly from increased access to markets in the developed world that attract preferential tariffs with greater chance of export than from importing costly IP from the developed countries. As the CIPR states: 'If IPRs are to benefit developing countries, that benefit will need to come through promoting invention and technological innovation, and thereby enhancing growth'.³⁶ The CIPR concludes its report on IPR and Development by stating that:

The main conclusion seems to be that for those developing countries that have acquired significant technological and innovative capabilities, there has generally been an association with 'weak' rather than 'strong' forms of IP protection in the formative period of their economic development. We conclude therefore that in

³³ 'Foreign Aid in the National Interest: Promoting Freedom, Security, and Opportunity', USAID website at <http://www.usaid.gov/fani/>, accessed February 2005. Note that USAID states that this report is not a policy document, but will nevertheless aim to inform on how US foreign assistance can adapt to meet future challenges.

³⁴ Commission on Intellectual Property Rights (CIPR) report on Intellectual Property and Development, chapter 1, Intellectual Property and Development, 2002 at http://www.iprcommission.org/papers/text/final_report/chapter1.htmf, accessed February 2005, p. 11.

³⁵ Ibid.

³⁶ Ibid.

most low income countries, with a weak scientific and technological infrastructure, IP protection at the levels mandated by TRIPS is not a significant determinant of growth.³⁷

Clearly then the TRIPS-plus provisions as required by the US Trade Act 2002 would be even less beneficial to the kind of economic growth referred to by USAID above. Perhaps what is required is an amendment to the US Trade Act 2002 that would allow the USTR and its negotiators the power to exercise a discretion and which would give LDCs and DCs exemptions or exceptions to some of the provisions required by HR3009.

The US is not alone in extracting TRIPS-plus provisions through bilateral trade agreements or FTAs. The EC-Mexico FTA also contains a provision at Article 12 that commits both parties to providing adequate and effective protection to the ‘highest international standards’, which could well cover standards that are yet to emerge in the future or be agreed at a multilateral level, such as for example the WIPO Internet treaties covering copyright in digital works and the protection of performance rights. The WIPO treaties require a number of ratifications from member countries before they come into force, but through the signing of bilateral agreements/FTAs requiring WIPO Internet treaty compliance with more and more countries by the US and the EC, it is not difficult to envisage a point in time (potentially) when all WTO members have ratified, the end result being that the Internet treaties will be folded into the TRIPS.³⁸ This would be a remarkable development considering that the Internet treaties set very high standards for the protection of copyright in digital works as found in the US Digital Millennium Copyright Act or the European Copyright Directive for example, the US and the EU being two of the leading exporters of IPR in the world. It is difficult to envisage how some LDCs or DCs if faced with this prospect would be able to enact and enforce such provisions given that basic human rights such as access to food, housing and education as set out in the International Covenant on Economic, Social and Cultural Rights³⁹ still need to be financed and enforced at the LDC/DC national level.⁴⁰ We should bear in mind that low-income countries, with over 40% of the world’s population, account for less than 3% of world

³⁷ Ibid, p. 12.

³⁸ Under the provisions of Article 71.2 TRIPS which states that: ‘Amendments merely serving the purpose of adjusting to higher levels of protection of intellectual property rights achieved, and in force, in other multilateral agreements and accepted under those agreements by all Members of the WTO may be referred to the Ministerial Conference for action in accordance with paragraph 6 of Article X of the WTO Agreement on the basis of a consensus proposal from the Council for TRIPS’.

³⁹ GAR Resolution 2200A, adopted 16/12/1966, entering into force 03/01/1976.

⁴⁰ Discussed in more detail in Chapter 10, ‘International Development’.

trade, with developed countries exporting around \$6,000 per capita and developing countries around \$330 per capita, with the lowest income countries exporting less than \$100.⁴¹

It gets worse. Only two arms of the pincer movement have been described above, but there is a third arm more directly linked with the way trade rules on tariffs currently operate at the WTO. These rules apply as a consequence of the *General System of Preferences* or GSP regimes that certain developed countries apply. The objectives of the GSP are (a) to increase DC and LDC export earnings; (b) to promote their industrialization; and (c) to accelerate their rates of economic growth.⁴² Under GSP schemes of preference-giving countries, selected DC and LDC product lines are granted reduced or zero tariff rates over the MFN rates. In order to allow a waiver from the usual MFN rules for DCs and LDCs, the GATT contracting parties approved a waiver to Article I of the GATT agreement in 1971. A permanent waiver for the GSP scheme was created in 1979.⁴³ Under the GSP schemes, applied tariff rates may be lower than MFN rates owing to the non-reciprocal preferences granted to selected developing countries under the GSP and supplementary preferences for LDCs.⁴⁴ The aim of the GSP regime is to grant special and differential treatment to DCs and LDCs and increase the export opportunities of these countries by discriminating in favour of qualifying DCs and LDCs through granting non-reciprocal tariff reductions below the MFN rates for particular products. However, Acharya and Daly argue that GSP schemes ‘have at best yielded only a “modest” increase in imports from beneficiary countries, with some of those gains due merely to trade diversion rather than trade creation’.⁴⁵ Nevertheless the GSP schemes remain highly popular with DCs and LDCs as they at least provide some inroad into the highly prized markets of the United States and the EU. However, preferential tariffs under a GSP scheme can be unilaterally revoked or modified at any time by the Member according such concessions, leading to uncertainty and generating a culture of dependency. This in turn facilitates developed countries being able to extract various concessions from developing countries, which may well be in non-trade areas.

⁴¹ *Finding a Way Forward in the Doha Development Round: Key Issues for LDC Trade*, LDC Ministerial Meeting Dakar, 4–5 May 2004, Oxfam International, p. 1.

⁴² Resolution 21(ii) taken at the UNCTAD II conference in New Delhi, 1968.

⁴³ 1979 *Enabling Clause*, Decision of the Contracting Parties of 28 November 1979 (26S/203): ‘Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries’. There are currently 16 national GSP schemes that have been notified to the UNCTAD Secretariat. See UNCTAD site at <http://www.unctad.org>, accessed September 2005.

⁴⁴ Acharya, R. and Daly, M., ‘Selected Issues Concerning the Multilateral Trading System’, WTO discussion paper No. 7, 2004, p. 9.

⁴⁵ *Ibid.*, p. 10.

For example Acharya and Daly cite the EU's explicit linking of granting of preferences in addition to those provided by the GSP to beneficiary countries' adherence to labour and environmental standards, and how US trade law allows the President to use GSP to promote intellectual property rights, for example as found under the *African Growth and Opportunity Act 2000*, which allows 38 African countries to qualify for preferential treatment so long as they already qualify for GSP treatment. GSP is to be extended to eligible African countries until 2015.⁴⁶

Also, *rules of origin* may often require beneficiary DCs or LDCs to use inputs from the US or EC granting the preference, which could have adverse effects on the DC's or LDC's exporters' competitiveness, as the sourcing may not be the cheapest available, raising the production costs of DC or LDC exporters.⁴⁷ The particular danger here for DCs and LDCs is both the targeted nature of GSP schemes and also the conditionality for such schemes. The EC, for example, has recently been challenged on conditionality and has lost.⁴⁸ Conditionality and targeted arrangements for GSP are particularly disadvantageous for DCs or LDCs, given that in future, developed countries, such as the Quad countries, might well seek to impose further conditions on IPR and FDI in the technology sector, if commercial reasons dictate. Conditional arrangements for GSP were particularly disadvantageous to exporters in the cotton and textiles industry, for example, where potential concessions on tariffs promised by developed countries was one of the primary reasons for many DCs and LDCs agreeing to sign up to the minimum IPR standards required by the TRIPS agreement in the first place.⁴⁹

9.3 IMPLICATIONS FOR DEVELOPMENT

As Drahos argues, 'Developing countries are being led into a highly complex multilateral/bilateral web of intellectual property standards that are progressively eroding, not just their ability to set domestic standards, but also their ability to interpret their application through domestic and administrative and judicial mechanisms'.⁵⁰ As mentioned in Chapter 7 and repeated again here,

⁴⁶ Ibid, p. 10. The Act was extended by President Bush in July 2004, from 2008 to 2015. See the US State Department press release on extending the Act at: <http://usinfo.state.gov/af/Archive/2004/Sep/21-162615.html>, accessed April 2006.

⁴⁷ Ibid, p. 11.

⁴⁸ WT/DS246/AB/R, 7 April 2004.

⁴⁹ *Review of the progress and obstacles in the promotion, implementation, operationalization, and enjoyment of the right to development*, Economic and Social Council, E/CN.4/2004/WG.18/2, 17 February 2004, p. 13.

⁵⁰ Drahos, *supra* note 26, p. 14.

maintaining flexibility in determining national policy was adopted as a policy objective at the UNCTAD XI Conference in Sao Paulo (June 2004) (the Sao Paulo Consensus), which states at paragraph 8:

The increasing interdependence of national economies in a globalizing world and the emergence of rule-based regimes for international economic relations have meant that the space for national economic policy, i.e. the scope for domestic policies, especially in the areas of trade, investment and industrial development, is now often framed by international disciplines, commitments and global market considerations. It is for each Government to evaluate the trade-off between the benefits of accepting international rules and commitments and the constraints posed by the loss of policy space. It is particularly important for developing countries, bearing in mind development goals and objectives, that all countries take into account the need for appropriate balance between national policy space and international disciplines and commitments.⁵¹

Time has slowly eroded the concept of a state's sovereignty to act. Just under a century ago, the concept of sovereignty seemed very different, something stronger. For example, consider the opinion of Judge Max Huber in the *Island of Palmas Arbitration*: 'Sovereignty in the relations between States signifies independence. Independence in regard to a portion of the globe is the right to exercise therein, to the exclusion of any other State, the functions of a State.'⁵² Franck also talks of:

The impossibility of reconciling the notions of sovereignty which prevailed even as recently as fifty or sixty years ago with the contemporary state of global interdependence signals the profound transformation of international law which has occurred during the second half of this century. To describe this transformation is to point to a concomitant opportunity and challenge: not only to assess the extent to which international law has modified sovereign state behaviour, but also to examine critically whether this advance represents genuine progress, and how 'progress' is to be measured.⁵³

We will return to Franck's *Doctrine of Fairness* in Chapter 10. Clearly LDCs and DCs, entering into bilateral/FTA agreements to attract FDI are going to increasingly face the difficult challenge of striking a balance between using BITs, IIAs and FTAs to attract FDI on the one hand, and maintaining sufficient flexibility to pursue national development plans in the services sector on the other. In a recent IMF paper, Hilaire and Yang (working for the IMF) generated two simulations based on trade data looking specifically at the

⁵¹ UNCTAD, TDL/L30, June 2004.

⁵² Cited in Franck, M.T., *Fairness in International Law and Institutions*, Oxford University Press, 1995, p. 4.

⁵³ *Ibid.*

implications for a number of developing countries of FTAs with the United States. They argue that the initial improvement in market access enjoyed by participants in FTAs could be eroded progressively as global liberalisation proceeds, and that this preference erosion might act as a disincentive to participate in multilateral liberalisation.⁵⁴

In addition, developed countries have a responsibility to consider the implications of the IP protection standards they use in bilateral investment agreements or FTAs in terms of the costs involved for developing countries in implementing such standards (particularly the TRIPS-plus provisions mentioned above), and also in terms of evaluating whether the protection required is appropriate to the state of economic development of the target DC or LDC. Furthermore, developed countries need to ensure that their objectives for the protection of IP in the target DC or LDC are consistent with their own publicly stated objectives as set out in the development policy and poverty reduction agendas of their overseas aid and development departments.

9.4 REGIONAL AND BILATERAL ARRANGEMENTS

Regional and bilateral arrangements are far less preferable to the setting of multilateral standards, where the negotiating capabilities of developed and developing countries, although remaining asymmetrical, are counterbalanced by numerical advantage and the ability to build alliances.⁵⁵ There are further risks that regional/bilateral agreements could undermine the multilateral system by limiting more generally the use by developing countries of the flexibilities and exceptions allowed for in TRIPS, such as making use of provisions within the TRIPS for the exclusion of plant and animals from patent protection, provisions for the international exhaustion of patent rights, and the

⁵⁴ Hilaire, A., and Yang, Y., 'The United States and the New Regionalism/Bilateralism', IMF Working Paper WP/03/206, October 2003, p. 1. At page 21, they conclude that three important implications emerge from their simulation studies: (i) initial improvements in market access enjoyed by FTA participants could be gradually eroded because many of the FTAs are coming together over a short period with major global quota reductions in textiles and garments scheduled over the next couple of years; (ii) countries will have less incentive to join in multilateral liberalisation; and (iii) welfare benefits to FTA participants could be substantially reduced if sensitive sectors, such as agriculture, are excluded from bilateral negotiations and liberalisation. Furthermore, if there is insufficient complementarity in trade structure between FTA partners, such exclusions could result in welfare losses.

⁵⁵ Commission on Intellectual Property Rights (CIPR) report on Intellectual Property and Development, chapter 8, 'The International Architecture', 2002 at http://www.iprcommission.org/papers/text/final_report/chapter8.htmf, accessed February 2005, p. 8.

‘Bolar’ exception⁵⁶ to patent rights.⁵⁷ The implications of bilateralism and the danger it poses to negotiations at the multilateral level have been argued by leading WTO jurists, such as John Jackson.⁵⁸ The proliferation of bilateral and regional agreements has gradually eroded the scope and application of MFN tariffs,⁵⁹ the cornerstone of WTO policy since the WTO was first established in 1995. As Acharya and Daly argue: ‘The outcome is that MFN tariffs tend to be the exception rather than the rule, especially as far as the EU and Canada are concerned’.⁶⁰

There are also other trade-distorting aspects of bilateral/FTA arrangements that have been well summarised in the IMF paper by Hilaire and Yang mentioned above:⁶¹ (i) as trade barriers are lowered between partners to preferential trade agreements, trade may be diverted from lower-cost suppliers that are not members of the arrangement, because the higher tariffs on their goods now make them more expensive than imports from members, generating welfare costs as a consequence of resources being shifted to less efficient producers; (ii) concentration on building bilateral and regional alliances may distract and dilute the momentum towards multilateral trade liberalisation;

⁵⁶ The Bolar exception arises from the US case of *Roche Products, Inc. v. Bolar Pharmaceutical Co* (1984), and allows a generic producer of pharmaceutical products for example to legally import, produce or experiment on a patented product before the patent term has expired. The Bolar exception came to be incorporated into US law through 35 USC 271(e)(1), and was sanctioned at the multilateral level in a WTO DSB case between the EU and Canada, *Canada – Patent Protection for Pharmaceutical Products* (EU against Canada) April 2000. The Bolar provision is now incorporated into the TRIPs (Article 30) with similar language. Developing countries can take advantage of this exception by including this clause in national IPR laws, allowing domestic producers to manufacture generic medicines before the patent term has expired.

⁵⁷ Commission on Intellectual Property Rights (CIPR) report on Intellectual Property and Development, chapter 8, ‘The International Architecture’, 2002 at http://www.iprcommission.org/papers/text/final_report/chapter8.htmf, accessed February 2005, p. 6. The CIPR completed a survey of 70 developing countries and found that approximately a quarter of these specifically excluded plant and animals from patent protection, less than half provided for international exhaustion of patent rights and less than a fifth provided for a Bolar exception.

⁵⁸ Jackson J., *The World Trading System*, The MIT Press, 1997, p. 158.

⁵⁹ ‘As of August 2004, 298 RTAs have been notified to the GATT/WTO of which 174 were notified since January 1995. 206 notified agreements are currently in force and 60 or more are estimated to be operational although not yet notified. By the end of 2007, if RTAs reportedly planned or already under negotiation are concluded, the total number of RTAs in force might well surpass 300’, Acharya R. and Daly, supra note 44, footnote 45.

⁶⁰ Ibid, p. 12.

⁶¹ Hilaire and Yang, supra note 54, p. 7.

(iii) as more countries get into regional trade arrangements, the cost of non-participation mounts;⁶² (iv) a plethora of, sometimes overlapping, trade agreements could add considerable administrative cost and confusion due to the need to negotiate separate agreements, establishing and policing various rules of origin and preference margins; (v) as mentioned earlier, reliance on preferences could be modified or withdrawn leading to instability and dependency; and finally (vi) the current genre of US FTAs include relatively new elements such as requirements on labour standards, IPRs and capital transfers where non-performance could lead to trade sanctions, and which could undermine a country's ability to operate in emergency situations.

9.5 RACHETING UP IP PROTECTION THROUGH BILATERAL/FTA ARRANGEMENTS

In the specific area of IPRs, it is perhaps naïve to think that developed countries, such as the US and the EU, will discontinue ratcheting up IP protection in bilateral/FTA arrangements. Drahos suggests a solution to the global ratcheting-up of IP rights:

Developing Countries should consider forming a veto coalition against further ratcheting up of intellectual property standards. The alliance between NGOs and developing countries on the access to medicines issue and the fact that this alliance has managed to obtain Special Sessions of the TRIPS Council on this issue suggests that this coalition is a realistic possibility. The position of such a veto coalition should be converting the Council on TRIPS from a body that secures a platform to one that polices a ceiling. This bold new agenda for the Council on TRIPS would be a standstill and rollback of intellectual property standards in the interests of reducing distortions and increasing competition in the world economy. If developing countries cannot forge a unified veto coalition against further ratcheting up of intellectual property standards, they can be assured that they will be picked off one by one by the growing wave of US bilaterals on both intellectual property and investment more broadly.⁶³

The CIPR also suggest changes. The Commission refers specifically to the extension granted to LDCs for patent protection for pharmaceuticals to 2016, and argues that the extension should be broadened to cover the implementation

⁶² Hilaire and Yang argue that US activity in the Western hemisphere is also having repercussions in the Pacific, and that the US approach could catalyse other regions in to establishing competing and possibly protectionist FTAs. For example, Japan, China and Korea have all recently signed FTAs with trading partners in Asia or are in the process of negotiating FTAs.

⁶³ Drahos, *supra* note 26, p. 16.

of the TRIPS as a whole. Furthermore, the Commission suggests that the TRIPS Council should also consider introducing *criteria* to decide the basis on which LDCs should enforce the TRIPS obligations after 2016. Such criteria could include indicators of economic development and scientific and technological capability as reflected in Article 66.1 TRIPS Agreement on the need for flexibility to create a viable technological base.⁶⁴ Extending the argument made by the CIPR, the author goes further, suggesting that any criteria developed by the TRIPS Council (as suggested by the CIPR) could then be used as the basis for providing *exceptions* or *exemptions* to developed country national law on the negotiation of intellectual property rights and trade, for example in the US Trade Act 2002 discussed above (Section 9.2). In the case of the United States, the criteria could be set out in a schedule or annex to the Act which would allow the USTR to provide exceptions or exemptions to any DC or LDC that meets the criteria. Such a provision could then become a template model for any developed country with similar trade-related intellectual property rights legislation in force.

This chapter has reviewed TRIPS and the bilateral and FTA arrangements that DCs and LDCs are beginning to enter, indicating the danger that DCs and LDCs might face in losing control over the power and discretion to determine the path and stages of their own development. Their development policy might become so constrained by trade rules and bilateral agreements that it would be difficult for them to deliver key economic and social rights to their citizens. Key problems arise, for example, when a country signs a BIT granting a right of establishment to foreign investors when a regional agreement entered into by the same country bars such a right.⁶⁵ Similar problems arise when a host country concludes an IIA chapter on trade in services, committing itself to granting market access to service providers in a particular sector in accordance with the services chapter of the IIA. But once the service provider has established a commercial presence, that commercial presence is then also regarded as an ‘investment’ within the meaning of a separate investment chapter in the same IIA, subject to all the protection offered by the IIA on expropriation measures (discussed above). This can create confusion.

⁶⁴ Commission on Intellectual Property Rights (CIPR): report on Intellectual Property and Development, chapter 8, ‘The International Architecture’, 2002 at http://www.iprcommission.org/papers/text/final_report/chapter8html, accessed February 2005, p. 8. The CIPR refers to a study completed by Lall, S., and Albaladejo, A., ‘Indicators of the Relative Importance of IPRs in Developing Countries’, UNCTAD/ICTSD, Geneva 2001 at: <http://www.ictsd.org/unctad-icstd/docs/Lall2001.pdf>, which sets out various measures of scientific and technical capability in developing countries.

⁶⁵ UNCTAD, *Systemic Issues in International Investment Agreements (IIAs)*, IIA Monitor No. 1 (2006), UNCTAD/WEB/ITE/IIA/2006/2, 2006, p. 3.

The question is whether wealthier countries in the world will recognise this and modify their current trade policies as outlined in this chapter, particularly as regards the trade in IPRs. Developing countries also need to ensure that the provisions of the trade treaties that they sign accord with their own national development strategies or poverty reduction strategies discussed in the next chapter (Chapter 10). In Chapter 10, the author looks more closely at economic, social and cultural rights. International development is seen as another example of IEL that is related to the Digital Divide. We have reviewed, in previous chapters, separate elements of IEL related to the Digital Divide, including telecommunications, competition, trade, and IPRs. In Chapter 10, the author looks more closely at international development and specifically the UN Right to Development (RTD) as a composite right including civil and political rights, and economic, social and cultural rights. We saw in Chapter 2 how the Digital Divide was related separately to civil and political rights, economic, social and cultural rights. In Chapter 10, the author explores the relationship between the RTD and FDI, and how the RTD can be enforced through economic law to help address the Digital Divide.

10. International development*

We are writing a bill of rights for the world . . . one of the most important rights is the opportunity for development.

Eleanor Roosevelt

10.1 INTRODUCTION

The previous chapters of this book have centred on answering the first two questions set out in the Introduction (Chapter 1). This chapter is concerned with the third question: whether it is possible to define a relationship in IEL between civil and political, and economic social and cultural rights (ESCR) as a collective, for example in the form of the much-debated and somewhat controversial *Right to Development* (the ‘RTD’ as defined in this book) on the one hand, and the Digital Divide on the other? And if such a link does exist, how can the RTD be enforced to address the Digital Divide?

Three sections follow. Section 10.2 will discuss *an outline of the evolution of development theory*, Section 10.3 *ICTs and development*, and Section 10.4 an economic law approach to development (*economic development*). Sections 10.2 and 10.3 are introductory and do not aim to discuss these subject areas in detail. For example, in 10.2 in discussing development theory the author is not attempting to discuss the many specific theories on development proposed by different financial institutions such as the Bretton Woods institutions (for instance, the World Bank and IMF), for example development theories on sustainable development, micro-development, women-centred development, endogenous development, appropriate development, and ‘Basic Needs’ development etc. The sheer breadth of this discussion would be beyond the scope of this book. For a non-exhaustive list of references providing further detail on general development theory see footnote 13, Chapter 1. For reasons explained later in this chapter at Section 10.2.3 the author’s focus is on the historical evolution of the UN *Right to Development* (RTD). The Digital Divide cannot be addressed just by importing technology, but requires

* A version of this chapter has been published in *Human Rights and Capitalism* (eds J. Dine and A. Fagan), Edward Elgar, 2006.

a well-trained base of human capital to achieve effective utilisation and absorption of that technology.

In Chapter 2, we reviewed research that indicates a direct link between the enforcement of civil and political rights, and separately ESCR rights and the Digital Divide. For example, in a panel of 100 countries measured over 1999, Arquette finds that the Digital Divide parallels the gap in economic and human development.¹ Kiiski and Pohjola use a panel of 60 countries over the years 1995–2000, looking at a range of variables including income per capita, telephone access costs and the *average years of schooling*, and also the five-year growth rate of internet hosts.² Guillen and Suarez review a panel of 141 countries over the period 1998–99 using a range of policy variables including telecommunications policy and infrastructure, as well as two variables that indicate to some extent the level of entrepreneurship in the country in question; predictable policy-making and a *democracy index*.³ Norris examines the dispersion of internet use by grouping information on internet use in over 100 countries into a ‘New Media Index’ and comparing it with an ‘Old Media Index’ that indicates the level of penetration of radio, newspaper readership and television sets in each country.⁴ This research is discussed in more detail in Chapter 2. ICTs and development are further discussed below. The point of flagging this research again here is to make the link between the enforcement of human rights and addressing the Digital Divide. If we take this research to indicate that such a link can be said to exist (thereby answering the first part of question (iii)) then the critical question becomes *how* to enforce these human rights so as to address the Digital Divide (the second part of question (iii)). The bulk of this chapter addresses the second part: how to enforce the RTD? The assumption is that the RTD encompasses the whole gamut of rights (civil and political rights, and ESCR), which will include a right to education and a right to share in scientific and cultural knowledge (discussed below in Section 10.5, *Enforcing the RTD through Economic Law*). The author asserts that by enforcing the RTD, DCs and LDCs will be in a better position to improve their basic living standards at home, and so improve their human

¹ Arquette, T.J., *Social Discourse, Scientific Method, and the Digital Divide: Using the Information Intelligence Quotient (IIQ) to Generate a Multi-Layered Empirical Analysis of Digital Division*, Northwestern University.

² Kiiski, S., and Pohjola, M., ‘Cross-country Diffusion of the Internet’, United Nations University, World Institute for Development Economic Research, 2001.

³ Guillen, M.F., and Suarez, S.L., ‘Developing the Internet: Entrepreneurship and Public Policy in Ireland, Singapore, Argentina, and Spain’, *Telecommunications Policy*, 25(3–4), pp. 349–71.

⁴ Norris, P., ‘The Global Divide: Information Poverty and Internet Access Worldwide’, Internet Conference at the International Political Science World Congress, Quebec City, 2000.

capital base. In accepting the assumption that the RTD can be classed as a *composite* right of the separate civil and political rights, and ESCR, in enforcing the RTD through economic law, the author is attempting to bring justiciability to the RTD, and thereby indirectly, address the Digital Divide. The author asserts that one way of achieving this is to establish a link between the RTD and indicators of economic growth, such as FDI and GDP (discussed in Section 10.5.1.6). The historical background to the RTD is given in Section 10.2.3 *Outline Background to The Right To Development*.

One of the assumptions of this book is that effectively growing GDP and FDI will help to enforce the RTD, which in turn will stimulate technology transfer, innovation and the narrowing of the Digital Divide, effectively generating a ‘positive feedback’ loop. In Section 10.5 (*Enforcing the RTD through Economic Law*), the author sets out a new *Right to Development Theory* to prove the link between the RTD, FDI and GDP. He does this through developing the legal theory and also with the use of symbolic equations. He argues that the equation he develops, *Equation 5*, will need to be verified through further econometric research, which is beyond the scope of this book. Such work will be interdisciplinary and at the interface between law and economics and the work of development economists.

The author then suggests how the RTD could be enforced through a form of national-level tax relief applied to MNCs with corporate headquarters registered in developed countries. To do so, he proposes the concept of a national measure, the *RTD Tax Relief* (Section 10.5.1.5). Another reason for choosing the RTD (as opposed to any of the other theories on development suggested above) is that the RTD represents the culmination of efforts by DCs and LDCs over half a century to use international law to encourage developed countries to assist with international development.⁵ As such, the RTD is very closely associated with the interests of DCs and LDCs. The aim of this book is to address the Digital Divide through economic law from the perspective of DCs and LDCs. The RTD forms one of the elements of IEL in that it is a composite right involving all the human rights including civil and political rights, and ESCR. By showing that civil and political rights and ESCR are separately related to the Digital Divide we will see that the RTD as a *composite* of these separate rights is also so associated. In enforcing the RTD therefore, we can begin to address the Digital Divide. The question then is to investigate how the RTD could be enforced, one of the issues explored in this chapter.

⁵ For example in the establishment of a *New International Economic Order* (NIEO) (discussed below): see also Gordon, R., and Sylvester, J., ‘Deconstructing Development’, *Wisconsin International Law Journal*, 22 (1), 2004, p. 3.

Agreeing with Marks,⁶ the author also argues that the most powerful nation in the world, the United States, although stiffly opposed to the RTD from commencement, is already promoting something similar to the RTD, the *Millennium Challenge Account* (MCA) (albeit with important differences). The author argues that the RTD Tax Relief that the author proposes will create a working compromise between the MCA and the RTD, which could be more politically acceptable to the developed world than the RTD alone. As discussed in Section 10.2 of this chapter, the RTD has its origins in the attempt by DCs and LDCs to use international law in the pursuit of permanent sovereignty over natural resources, followed by demands for a broader *New International Economic Order*, and failing this, in the successful pitch for the RTD, which seeks to integrate development into the human rights discourse.

In Section 10.3, discussing *ICTs and Development*, the author is not attempting to address the myriad ways in which ICTs can be used, so-called 'modernization theory'⁷ which would entail a detailed discussion of the many different types of technology and service sectors, and which is beyond the scope of this book, but instead the author focuses on assessing the appropriate use of ICTs in development at a conceptual level. Should DCs and LDCs focus on the use of ICTs as a specialist sector or include ICTs in a more integrated way across different sectors (health, education etc.)? To what extent should international donor organisations, such as DFID, UNCTAD and the UNDP, be involved with local communities (so-called Alternative Development) or national government (following standard Modernization Theory) in promoting ICTs and development? In answering this question, the author also draws on research for the United Kingdom's Department for International Development (DFID) and Harvard Law School's Berkman Center for Internet and Society.⁸

⁶ Marks, S., 'The Human Right to Development: Between Rhetoric and Reality', *Harvard Human Rights Journal*, 17 (137), 2004.

⁷ Modernisation has been described as 'the process by which a society comes to be characterized by a belief in the rational and scientific control of man's physical and social environment and the application of technology to that end'. Ibid, p. 6, citing Ziauddin Sardar, 'Development and the Locations of Eurocentrism, in *Critical Development Theory*', *Contributions to a New Paradigm* (eds Munck, Ronaldo, and O'Hearn, Denis), Zed Books, 1999, p. 117.

⁸ DFID report by Kariyawasam, R., Milne, C., Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., 'Reducing the Costs for Internet Access in Developing Countries', Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published at: <http://www.wesra.com/cost1.htm>, accessed September 2005; DFID report, 'Improving the quality of transition in Central and South Eastern Europe through Information and Communication Technologies', Kariyawasam, R., Lundy, P., Stewart, I., Souter, D., Swain, N., Milne, C., and Garthwaite, N., Antelope Consulting for Department for International

The following two sections of this chapter therefore serve as an introduction to Section 10.4, on which the bulk of this chapter is focused, and which (as mentioned) aims to address the second part of the third question posed by the book, how the RTD can be enforced so as to help address the Digital Divide. This is on the assumption that the RTD, being a composite right of the separate civil and political rights and ESCR does have an impact on the Digital Divide (as discussed in Chapter 2). The third section also discusses the US Millennium Challenge Account, and the United Kingdom's Commission on Africa, and concludes with a discussion of the role of the WTO in helping to enforce the RTD Tax Relief. The first section starts with a brief outline of the evolution of development theory.

10.2 OUTLINE OF THE EVOLUTION OF DEVELOPMENT THEORY

10.2.1 Modernisation, Law and Development

As Gordon and Sylvester suggest, development as it is currently construed is essentially a post-World War II phenomenon.⁹ In 1949, in proposing a fair deal that sought to improve the lives of people living in underdeveloped areas, Truman put forward his Point IV Program:

More than half the people of the world are living in conditions approaching misery. Their food is inadequate, they are victims of disease. Their economic life is primitive and stagnant. Their poverty is a handicap and a threat both to them and to more prosperous areas.¹⁰

Truman's vision of poverty has continued to form the basis of the development project ever since,¹¹ and if Truman characterised the people of developing countries by the nature of their poverty, then, as Gordon suggests (citing Escobar), the World Bank quantified it in defining countries with an annual per

Development's Central and South Eastern Europe Department, 2000, available on the internet at: http://66.249.93.104/search?q=cache:IK2S4DYh0foJ:www.antelope.org.uk/telecommunications_development/CSEED_report.pdf+CSEED,+antelope+consulting&hl=en&gl=uk&ct=clnk&cd=1&client=firefox-a, accessed April 2006; Berkman Center (Harvard Law School) research report: 'Readiness for the Networked World: Jamaica Assessment' Kariyawasam, R., published on-line at <http://cyber.law.harvard.edu/home/2002-01>, vol. 2002-01, pp. 1–65, Harvard Law School.

⁹ Gordon and Sylvester, *supra* note 5, p. 4.

¹⁰ *Supra* note 5 citing Arturo Escobar, *Encountering Development: The Making and Unmaking of the Third World*, Princeton University Press, 1994, pp. 1–320.

¹¹ *Ibid.*

capita income below \$100 as poor.¹² Poverty then became the defining characteristic of the developing world and the solution was economic growth and development.¹³ Development had its roots in modernity and the modernisation project has been a foundation on which development theory has been built. As mentioned earlier, modernisation can be described as ‘the process by which a society comes to be characterized by a belief in the rational and scientific control of man’s physical and social environment and the application of technology to that end’.¹⁴ Modernisation continues to be supported by all the major international aid agencies and, as Gordon and Sylvester suggest, is a key component of ‘law and development’, which is essentially a Western construct, the imposition of Western best practice and Western legal systems on the developing world. A present-day example of this would be the imposition of Western-style competition law systems as a condition of World Bank funding. In the early 1970s, the reaction to law and development was a call by developing world leaders for a *New International Economic Order* (discussed below). Gordon and Sylvester suggest that the current ‘reincarnation’ of the law and development movement is ‘good governance’ which has the aim of both limiting the power of the state in the economy while simultaneously expanding the role of the market, and establishing a system of liberal democracy as a counterpart to structural adjustment or neoliberal economic reform.¹⁵ Current examples of Western good governance would be the export of the Sarbanes-Oxley Act from the United States, which has its origins in the collapse of Enron and later WorldCom, and which covers procedures for company directors and Multidisciplinary Partnerships (MDPs). The extraterritorial nature of this Act (and the costs of implementation) has been felt in the UK, Asia (particularly the financial capitals of Tokyo and Hong Kong) and Europe.

10.2.2 Constructing Development in Practice

In pushing Truman’s agenda, modernisation, law and development and now good governance, the Bretton Woods institutions, particularly the International Monetary Fund (IMF) and the World Bank (WB) have exercised and continue to exercise considerable influence over the national economies and development plans of DCs and LDCs. The World Bank plays the role of a private commercial bank except that its depositors and borrowers are Member States. Over the period 1950–70, sometimes known as the *Golden Age of*

¹² Supra note 5, Escobar supra note 11, at 23–4.

¹³ Supra note 5 (Gordon), p. 5.

¹⁴ Sardar, supra note 8 above.

¹⁵ Gordon and Sylvester supra note 5, p. 7.

Development, the WB extended project-based loans to build dams, highways and other infrastructure projects.¹⁶ However, as Gordon and Sylvester suggest, ‘the trickle-down theory, which postulated that economic growth would necessarily shrink the gap between the rich and the poor, proved to be untrue’.¹⁷ Optimism began to wane and developing world leaders called for a permanent sovereignty over natural resources (discussed below). In the second era of development, the WB concentrated on meeting the ‘Basic Needs’ of developing nations, which focused on reducing poverty through programs for food, clothing, shelter, education and employment.¹⁸ The period of the 1980s by contrast is described as the ‘lost decade for development’. In this period, the Third World debt crisis arose and the IMF and WB introduced the concept of *Structural Adjustment Programs* (SAPs), the aim of which was to halt the escalating deficits of debtor countries, mainly developing countries. As Gordon and Sylvester suggest, under the rubric of economic development, ‘The World Bank’s scope increased to encompass legal and judicial reform, family planning, education, developing the private sector and health care’.¹⁹ It is now widely accepted that SAPs had a detrimental effect on the economies of DCs and LDCs, as by the end of the 1980s, some of these countries were even more debt ridden and unable to provide basic services, such as education and healthcare, to their people.²⁰

The 1990s saw the re-emergence of modernisation in the form of globalisation and DCs and LDCs now needed to integrate into the global economy: development took the form of privatisation, economic liberalisation and the proliferation of free markets (a cocktail often described as following the recipe of the ‘Washington Consensus’). However, in a relatively recent move, the WB, in devising its *Comprehensive Development Framework* (CDF), now suggests that growth must include structural, human, physical and sector-specific aspects of development, and that development must integrate market-friendly policies and incentives, with the agents for change being governments, local organisations and non-governmental organisations (NGOs). In its policy documents on the CDF,²¹ the WB stresses that the CDF builds on the rationale of the Millennium Development Goals for 2015

¹⁶ Ibid, p. 9.

¹⁷ Ibid.

¹⁸ Ibid, p. 10.

¹⁹ Ibid, p. 11.

²⁰ Ibid.

²¹ See for example ‘Supporting Development Programs Effectively: Applying the Comprehensive Development Principles: A Staff Guide’ (WB, November 2004), ‘Enabling Country Capacity to Achieve Results’ (2005 CDF Progress Report), both available on the WB website at www.worldbank.org, accessed April 2006.

(discussed below) and the *Paris Declaration on Aid Effectiveness*.²² Good governance also emphasises marketisation and privatisation as opposed to detailed sector-specific regulation (government regulation).²³ The CDF encourages the move away from import-substitution models, moving instead to export-led growth and a domestic environment conducive to private markets along the principles of country ownership and a country-led partnership with a results focus.²⁴ One important and positive aspect of the CDF is its emphasis on country ownership and its focus on the host state's own *national development strategy* (NDS) where civil society, government (national and local) and other stakeholders (such as NGOs) both within and outside of government are required to be involved in the development process.

The CDF was spearheaded by James Wolfenson, president of the World Bank as a response to the perception that the Bank was out of touch with the real development needs of local communities. Wolfenson saw a more active role for NGOs, previously at the margins of development policy. With the CDF, NGOs are to play a more active part in development policy. Critics have observed that this move has made the WB 'go soft', moving away from hard-line economics and growth theory and pandering instead to the disparate objectives of a range of NGOs, particularly the protection of economic, social and cultural rights.²⁵ The WB's move to include greater emphasis on social welfare policies as part of its development programmes must be welcomed. The NDS is to include poverty reduction and similar overarching strategies such as sector and thematic strategies, which for example could include reform of the telecommunications and technology sectors. The NDS forms the cornerstone for the Paris Declaration mentioned above in aligning the obligations of donor and partner countries on aid effectiveness. The CDF, which draws on the Paris Declaration, underpins the basis of the WB's work in Poverty Reduction Strategies (PRS) that are expected to summarise prioritised programmes for public expenditure and policy/institutional change in the host state over a five-year period. The CDF appreciates to some extent that sustainable development

²² *Paris Declaration on Aid Effectiveness: Ownership, Harmonisation, Alignment, Results and Mutual Accountability*, Paris 2005. The Paris Declaration sets a number of targets for 2010 using indicators of progress, such as ownership of development strategies, alignment of partner procurement and public financial management systems with 'broadly accepted good practices', harmonisation of donor aid programmes etc.

²³ Ibid, p. 12.

²⁴ Ibid.

²⁵ For a good review of the Community Development Framework, see Lan Cao, 'An Evaluation of the World Bank's New Comprehensive Development Framework', in *Privatising Development: Transnational Law, Infrastructure and Human Rights* (ed. Michael B. Likosky), Martinus Nijhoff Publishers, 2005, pp. 27–57.

will not occur in the host state unless and until the host state actively ‘buys into’ the development strategy. We see therefore a change of emphasis from a top-down structure where the WB would previously impose its wishes on the host state to something more of a partnership between the donor agencies and the host state, where the ideal is that broader participation is achieved, and the poor empowered. The reality of this situation with the increasing privatisation of national incumbent telcos and water utilities has of course not necessarily led to the ‘poor being empowered’ and in fact has led to the creation of a greater divide between rich and poor in some nations. Telecommunication privatisation is discussed in more detail in Chapters 4 and 8.

10.2.3 Outline Background to the UN Right to Development

Throughout the periods described above, developing world leaders followed a pendulum-type relationship with development experts in the West, embracing and subsequently rejecting reforms as they failed. From the early 1970s, a growing body of thought from developing countries in the area of international law tried to establish a legal right to development. This had its origins in a movement for *Permanent Sovereignty over Natural Resources* (PSNR) that led to a call for a *New International Economic Order* (NIEO), and which eventually culminated in the UN Declaration on the Right to Development.²⁶ The PSNR was a reaction to the agreements that many DCs and LDCs had imposed on them through the period of colonial rule by Western colonial powers and which effectively exploited the natural resources of certain DCs and LDCs.²⁷ These newly independent states now sought to establish authority over their natural resources by passing measures that allowed them to renationalise such resources, in other words, the right to expropriate foreign enterprises if they deemed it necessary to do so. The UN resolution allowing the right to nationalise was eventually passed by the UN Assembly in 1962.²⁸ However, Western interests focused on the claim for compensation should nationalisation take place. This claim for compensation effectively made it uneconomical for many non-oil exporting developing countries to nationalise natural resources.²⁹ As such, the movement for the PSNR and subsequent resolution proved to be without teeth, but nevertheless laid the foundation for an NIEO.³⁰ The NIEO

²⁶ Bunn, I., ‘The Right To Development: Implications for International Economic Law’, *American University International Law Review*, 15 (1425), 2000; Marks, *supra* note 6; Gordon, and Sylvester, *supra* note 5.

²⁷ See Gordon, *supra* note 11, p. 14.

²⁸ UN General Assembly Resolution 1803, December 1962.

²⁹ See Gordon, *supra* note 11, p. 14.

³⁰ *Ibid.*

was encapsulated in a body of UN measures passed by a majority of members, but never accepted by the West.³¹ The main foundation for the NIEO was a *Charter of Economic Rights*, which included subjecting private foreign capital to the domestic laws of Third World host countries, full and effective participation in world governance, special trade preferences, stabilising export prices for commodities exported by Southern countries, debt forgiveness or rescheduling, and technology transfer. The Charter gave weight to the sovereign right to nationalise foreign property and to determine the compensation paid. It also confirmed the right of host states to supervise transnational corporations in their jurisdictions.³² During the same period of the early 1970s, the debate on technology transfer to LDCs also became a significant plank of the NIEO (see Chapter 8). One issue in particular stood out: the need for LDCs to obtain appropriate technology from MNCs, as many LDCs argued that MNCs tended to set up production enterprises that offered little prospect of beneficial technology transfer and that had little positive effect on local skill and employment patterns.³³ Yet again, leaders of the developing world failed to obtain the redistribution of international economic power that they sought (even though the Charter for example was passed by a majority of members), but nevertheless as with the PSNR, some elements of the NIEO did appear in the UN RTD, but considerably watered down.

The Senegalese jurist Keba M'Baye is widely credited with the initial idea of the 'Right to Development'. In 1972, in a lecture at the International Institute of Human Rights in Strasbourg, he argued: 'every man has a right to live and a right to live better'.³⁴ Over fourteen years later the UN General Assembly, adopted by resolution 4/128 on 4 December 1986, the UN Declaration on the Right to Development (RTD), which states that the right to development is a human right.³⁵ Despite being in force for just under twenty years, the Declaration, not being a legally binding instrument, has suffered from a lack of implementation and the political will required for international cooperation. The Declaration's evolution can be traced back to the transposition of *civil and political rights* (Articles 1 to 21 Universal Declaration of Human Rights³⁶) and *economic, social and cultural rights* (Articles 22 to 28 Universal Declaration of Human Rights) into two separate legally binding

³¹ Ibid, p. 15.

³² Ibid.

³³ Muchlinski, P., *Multinational Enterprises and the Law*, Blackwell Publishers, 1999, p. 430.

³⁴ M'Baye, K., 'Le Droit au Developpement comme un Droit de L'Homme', *Revue Des Droits de L'Homme* (Human Rights Journal), 5, 1972, pp. 503–15.

³⁵ Article 1 Declaration on the Right to Development (referred to throughout this chapter as the 'Declaration').

³⁶ Adopted by UN General Assembly Resolution 217(A)II on 10/12/1948.

treaties: (i) International Covenant on Civil and Political Rights (ICCPR);³⁷ and (ii) International Covenant on Economic, Social and Cultural Rights (ICESCR).³⁸ Also, the author recognises that there is disagreement as to the validity of considering ESCR as human rights. Clearly many states regard the right to education, right to health, food and clean drinking water as basic human rights, but for a more complete discussion see the excellent book by James Nickel, *Making Sense of Human Rights* (2nd edition, Blackwell Publishing, 2007). As the (then) Independent Expert on the Right to Development, Arjun Sengupta, argued, ‘it took many years of international deliberations and negotiations for the world community to get back to the original conception of integrated and indivisible human rights. The Declaration on the Right to Development was the result’.³⁹ The Right to Development (‘RTD’) as a human right has been reaffirmed in the Vienna Declaration adopted at the Second UN World Conference on Human Rights in Vienna, 1993.⁴⁰ Sengupta has described the RTD as:

... a composite right to a process of development; it is not just an ‘umbrella’ right, or the sum of a set of rights. The integrity of these rights implies that if any one of them is violated, the whole composite right to development is also violated. The independent expert describes this in terms of a ‘vector’ of human rights composed of various elements that represent the various economic, social and cultural rights as well as the civil and political rights. The realization of the right to development requires an improvement of this vector, such that there is improvement of some, or at least one, of those rights without violating any other.⁴¹

10.2.4 Opposition to the Right to Development

The United States has been opposed to the RTD from its commencement:

In our estimation the right to development (RTD) is not a ‘fundamental’, ‘basic’, or ‘essential’ human right. The realization of economic, social and cultural rights is progressive and not aspirational. We do not view them as entitlements that require

³⁷ General Assembly Resolution 2200A, adopted 16/12/1966, entering into force 23/03/1976.

³⁸ General Assembly Resolution 2200A, adopted 16/12/1966, entering into force 03/01/1976.

³⁹ Sengupta, A., ‘The Right to Development as a Human Right’, 2000, at http://www.hsph.harvard.edu/fxbcenter/FXBC_WP7—Sengupta.pdf, accessed September 2005, p. 1.

⁴⁰ Vienna Declaration and Programme of Action, adopted by the UN World Conference on Human Rights, 25 June 1993.

⁴¹ Fifth report of the Independent Expert on the Right To Development, Mr Arjun Sengupta. Submitted in accordance with Commission Resolution 2002/69, at 5, p. 6, UN Doc E/CN4/2002/WG18/6 (2002).

correlated legal duties and obligations. States therefore have no obligation to provide guarantees for implementation of any purported 'right to development'.⁴²

This is despite the fact that the US supported the RTD at the World Conference on Human Rights in Vienna, when the Vienna Declaration and the Programme of Action (discussed in Section 10.4 below) was adopted by consensus.⁴³ However the US has consistently resisted any reference to any form of legal obligation that could give rise to a transfer of funds for development to developing countries. As Marks argues, the US has stressed that development occurs thanks to economic liberties and private enterprise rather than a claimed right to development.⁴⁴ He also argues: 'About the only difference in nuance between the Republican and Democratic administrations is that the former stress economic liberties as the motor for development while the latter attach importance to individual rights more generally as making development possible'.⁴⁵ Also Marks concisely captures ideological differences between the developed world and the developing world over the RTD, particularly with regard to the [then] Cold War between East and West. In doing so he cites Philip Alston's comment on the Reagan Administration's view of the RTD:

... the right to development is little more than a rhetorical exercise designed to enable the Eastern European countries to score points on disarmament and collective rights and to permit the third world to 'distort' the issue of human rights by affirming the equal importance of economic, social and cultural rights with civil and political rights and by linking human rights in general to its 'utopian' aspirations for a new international economic order.⁴⁶

Clearly the situation has now changed: The Berlin Wall has come down and the Cold War has thawed (somewhat). And yet the US still appears to be caught by its past. In 2003, when the Human Rights Commission decided to request its Sub-commission on the Promotion and Protection of Human Rights to prepare a concept document establishing the feasibility of establishing the RTD as an international legal standard of a binding nature, guidelines on the implementation of the RTD and principles for a development partnership based on the Declaration to the RTD (discussed below in Section 10.2.3), the United States (together with Australia and Japan) cast the only negative votes:

⁴² United States Government, Statement at the UN Commission on Human Rights, 59th Sess., Comment on the Working Group on the Right to Development (10 February 2003), cited by Marks, *supra* note 6, p. 8.

⁴³ Vienna Declaration and Programme of Action: Note by the Secretariat, World Conference on Human Rights, Part 1, p. 10, UN Doc/A/CONF157/23 (1993).

⁴⁴ Marks, *supra* note 6, p. 6

⁴⁵ *Ibid.*, p. 7.

⁴⁶ *Ibid.*, pp. 7–8, citing Philip Alston, 'Making Space for New Human Rights: The Case of the Right To Development', *Harvard Human Rights Yearbook* (20), 1988.

47 other countries voted in favour.⁴⁷ As to other countries, the EU position on the RTD remains unclear. Marks argues that the EU position is often one of ‘damage limitation’ (between those countries supporting the RTD, such as India, China, Cuba, Egypt, Indonesia, Malaysia, Iran, Sri Lanka, Pakistan and Nepal, sometimes referred to as the Like-Minded Group, and often in opposition to the United States) in that the EU ‘will go along with a resolution if nothing particularly objectionable is inserted or will abstain’.⁴⁸ He cites a quote from the Greek Ambassador, speaking on behalf of the EU to the Commission on Human Rights in 2003: ‘The Cotonou Partnership Agreement between the European Union and the African, Caribbean, and Pacific Countries constitutes a concrete contribution to the fight against poverty and a further step towards the realization of the Right To Development’.⁴⁹ As to the other UN agencies on the RTD, Bunn writes:

Highlighting the crucial links between the three key goals of the United Nations Charter in the areas of peace, development, and human rights, the UNDP has set forth a policy to integrate human rights with sustainable development. The UNDP outlines three levels of commitment to human rights, First, it ‘works for the full realization of the right to development,’ particularly in the eradication of poverty. Second, it advocates human rights as part of sustainable development and third, it promotes good governance. The overall approach reflects how development and human rights complement, as well as depend upon, each other.⁵⁰

However, Marks argues that the UN agencies other than the Human Rights Commission have not been as supportive on the RTD, commenting in particular on the lack of any detailed comment on the RTD at the UN Millennium Summit in September 2000.⁵¹ He also says however that: ‘The General Assembly recently reaffirmed over U.S. opposition its “commitments to implement the goals and targets set in all the major United Nations conferences, summits, and special sessions and those undertaken at the Millennium Assembly, in particular, those relating to the realization of the RTD”’.⁵²

⁴⁷ Ibid, p. 4.

⁴⁸ Ibid.

⁴⁹ Ambassador Tassos Kriekoukis, Head of the Delegation of Greece on behalf of the European Union, Statement at the Commission on Human Rights, 59th Sess., Item 7: The Right To Development (25 March 2003), cited by Marks, *supra* note 6, p. 13.

⁵⁰ Bunn, *supra* note 26, p. 6 citing ‘United Nations Development Program, Integrating Human Rights with Sustainable Development’, 14–16.

⁵¹ *Supra* note 6, p. 13. Marks also makes reference to the lack of any specific mention on the RTD in the UNDP’s Human Development Report 2003, in spite of the participation of the Independent Expert on the RTD in the advisory panel.

⁵² *Supra* note 6, p. 14, citing GA Res. 223, UN GAOR, 57th Sess., at 432, p. 6, UN Doc A/RES/57/223, 2002.

Given its high profile, several commentators also identify weaknesses within the RTD. Bunn quotes for example Ghai: 'The value of the concept of a right is that it creates entitlements, and the entitlements are easier to enforce if the contents and beneficiaries of the right are clearly specified. In the case of the right to development, it is not clear who are the right and duty bearers. Equally vague is the content of the right'.⁵³ This lack of justiciability and legal standing of the RTD is discussed further below in Section 10.5. Bunn also cites Brownlie in discussing the content of the RTD which 'is to perhaps blur the conceptual profile and make the task of promulgation of the right the more difficult'.⁵⁴ And finally in citing Carty: 'The debate about the right to development marks a crisis in legal theory, because it encompasses a determined attempt to place material content before form and yet retain whatever advantages are supposed to attach to the use of legal language'.⁵⁵ There is no doubt that there is a valid argument that the RTD lacks justiciability, but there are also arguments to suggest that the RTD can be enforced in law, but through the process of IEL, which is discussed in Section 10.5 below.

10.3 ICTS AND DEVELOPMENT

In discussing ICTs and Development, Soeftestad and Sein describe the trustee relationship between developed and developing countries: '... to become developed, poor countries need to emulate the developed countries. In turn, the developed countries have the moral duty to help poorer countries achieve this growth. This creates a trusteeship relationship between the two worlds. Many developed countries, including the OECD collectively, take this seriously and in good conscience'.⁵⁶ Soeftestad and Sein divide the literature of ICT and Development into two main camps; the optimists and the pessimists.⁵⁷ The

⁵³ Supra note 26, p. 5, citing Ghai, Y., 'Whose Human Right to Development? Human Rights Unit Occasional Paper', 5–6 (Commonwealth Secretariat), November 1989.

⁵⁴ Supra note 26, p. 5 citing Brownlie, I., *The Human Right To Development*, Human Rights Unit Occasional Paper, vol 11, Commonwealth Secretariat, November 1989.

⁵⁵ Supra note 26, citing Carty, A., 'From the Right to Economic Self-Determination to the Right to Development: A Crisis in Legal Theory', *Third World Legal Studies*, 73, 75, 1984.

⁵⁶ Soeftestad, L., and Sein, M., 'ICT and Development: East is East and West is West and Twain may yet Meet', in *The Digital Challenge: Information Technology in the Development Context* (eds S. Krishna and S. Madon), Ashgate, 2003, p. 64 citing Nustad, K., 'Development: The Devil We Know?' *Third World Quarterly*, 22, 2001, pp. 479–90.

⁵⁷ *Ibid.*, p. 66.

optimists see ICTs as a catalyst for national development by being the means for transformation. ICTs are viewed as tools for empowerment that enable common citizens. ICTs can be viewed as a commodity, and by ‘successfully leveraging their low-cost producer advantage over the developed countries, developing nations can earn foreign exchange by manufacturing computer and related products, through performing high-skilled jobs (eg., offshore software development) and even low skilled jobs (eg., offshore data entry and data processing functions’.⁵⁸ However, they describe the danger of this utopian concept in that the poorer countries often end up manufacturing products, even organising their economies solely to benefit the richer (developed) countries.

Offshore computing and manufacturing ICT commodities are done mainly to feed the consumerism of the richer nations, and not for the developing countries. The rise in such ‘global’ ICT industries hardly indicates transfer of technology and more importantly, transfer of knowledge. In this context, ICTs result in helping richer countries advance further, while the poorer countries remain poor.⁵⁹

The pessimists argue that there are few links between ICTs and development, and that ICTs can lead to more repression by authoritarian governments who now have more powerful tools to control their citizens. In citing Sein and Ahmad: ‘ICTs can push developing countries deeper into poverty by streamlining and improving design and manufacture of goods and thereby reducing the demand of raw materials, energy, and even low-skilled labour—longstanding comparative advantages of developing countries’.⁶⁰

Soefstestad and Sein propose a different view of ICTs and development to that of either the optimists and pessimists, who are seen as being at polar ends of the spectrum. They suggest a ‘middle path’, and that development should be conceptualised through the perspectives of both *human development* and *alternative development* paradigms. The human development paradigm is influenced by Amartya Sen’s work on capacities and entitlements and is centred on the understanding that national development is the enlargement of people’s *choices*.⁶¹ These choices or freedoms are the choice of a healthy life, the choice to be educated and the choice of a decent standard of living.⁶² Sen talks of freedoms as being not only the primary ends of development, but

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid, p. 67, citing Sein, M.K., and Ahmad, I.U., *A Framework to Study the Impact of Information and Communication Technologies on Developing Countries: The Case of Cellular Phones in Bangladesh*, Proceedings of BITWORLD2001, Cairo, Egypt, 2001.

⁶¹ Sen, A., *Development As Freedom*, Oxford University Press, 1999.

⁶² Soefstestad and Sein, supra note 56, p. 68.

among its principal means. He talks of political freedoms (in the form of free speech and elections) that help to promote economic security; social opportunities (in the form of education and health facilities) that facilitate economic participation; and economic facilities (in the form of opportunities for participation in trade and production) that can help to generate personal abundance as well as public resources for social facilities. More importantly, such freedoms strengthen each other.⁶³ How do we measure such choices or freedoms? The UN has developed a range of key indices including: *Human Development Index*; *Gender Development Index*; *Gender Equity Measure*, and the *Human Poverty Index*. The Human Development paradigm stresses non-economic factors over economic or growth factors. A key failing of the paradigm is that it fails to take into account who should be responsible for achieving the indices.⁶⁴ The second paradigm, the alternative development paradigm, is again people-centred and development is achieved through civil society, including local participation, initiation, and leadership of development efforts. In summary, human development provides the means to measure socio-economic development, but alternative development utilises political freedom and citizen participation. In this sense, 'ICT then becomes a means of communication'.⁶⁵ Soeftestad and Sein source their ideas from the Appropriate Technology (AT) movement, which supports the development and use of sustainable approaches to meeting human and ecological needs through the appropriate use of technology. In turn, AT has its sources in Schumacher's concept of 'small is beautiful'.⁶⁶ 'To be appropriate, technology must be connected to the place, resources, economics, culture, and impact of its use'.⁶⁷ In short, effective ICT in development requires a human and cultural-centred approach. To measure the intended impact of its use, three fundamental questions first need to be asked: (i) *What is to be the level of the impact?* Often the main beneficiaries of development projects are at the local (community) level. Soeftestad and Sein argue that the main 'modernisation' perspective places prior emphasis on the national level, but the alternative development view however is to focus on the local. (ii) *On whom does it impact?* Depending on the level, different stakeholders will be impacted. The offshoot question from this is whether ICTs directly impact the poor or only indirectly?; (iii) *On what do ICTs impact?* As mentioned in Chapter 2 on the Digital Divide, Soeftestad and Sein argue that first order (simple substitution of old technology with new)

⁶³ Supra note 62, p. 11.

⁶⁴ Ibid.

⁶⁵ Ibid, p. 69.

⁶⁶ Scumacher, E.F., *Small is Beautiful. Economics As If People Mattered*, ABACUS, 1974.

⁶⁷ Supra note 62, p. 70.

and second order impacts (for example an increase in the phenomenon enabled by the technology, that is, increased communication) do not really give a measure of the true impact of ICTs on national development, and that impact can only truly be measured through *third order* effects, such as the generation of new related businesses and societal change (virtual organisations, empowerment of women etc.).⁶⁸

In his own research (as part of a team) into the use of ICTs in developing countries⁶⁹ and the internet in developing countries,⁷⁰ the author has found that many of Soefestad and Sein's views are borne out at the local level, but that national-level solutions are also required. For example, in researching the ICTs Report in Central and Eastern Europe, the research team conclude that:

... In common with other countries, economic liberalisation is bringing about growth but also growing inequality. Reliance on market forces alone will not deliver the benefits of new technologies to large segments of the population within decades. The widely-recognised potential of ICT to foster economic enterprise and social participation for all will not be achieved in the foreseeable future without intervention. Apart from low income, important barriers to the wider adoption of ICTs include:

- The relatively slow application of key regulatory instruments such as universal service funding, cost-based network interconnection fees and e-commerce enabling legislation;
- The lack of key skills in the areas of governance and large-scale technology deployment, and its socially valuable application.⁷¹

⁶⁸ Ibid, p. 67.

⁶⁹ DFID report, 'Improving the Quality of Transition *in* Central and South Eastern Europe *through* Information and Communication Technologies' (hereafter 'ICT Report'), Kariyawasam, R., Lundy, P., Stewart, I., Souter, D., Swain, N., Milne, and C., Garthwaite, N., Antelope Consulting and Commonwealth Telecommunications Office for UK Department for International Development's Central and South Eastern Europe Department, 2000, available on the internet at: http://66.249.93.104/search?q=cache:IK2S4DYh0foJ:www.antelope.org.uk/telecommunications_development/CSEED_report.pdf+CSEED,+antelope+consulting&hl=en&gl=uk&ct=clnk&cd=1&client=firefox-a, accessed April 2006; Berkman Center (Harvard Law School) research report: 'Readiness for the Networked World: Jamaica Assessment' (hereafter 'Jamaica Report'), Kariyawasam, R., published on-line at <http://cyber.law.harvard.edu/home/2002-01>, vol. 2002-01, pp. 1–65, Harvard Law School.

⁷⁰ DFID report by Kariyawasam, R., Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., 'Reducing the Costs for Internet Access in Developing Countries' (hereafter 'Internet Costs Study'). Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published on the internet at: <http://www.wesra.com/cost1.htm>, accessed September 2005.

⁷¹ See Conclusions section of the Executive Summary (p. 5), the ICT Report.

The DFID Internet Costs Study also revealed interesting policy findings.⁷² The study found that internet access prices in US dollars for dial-up users with local rate access in the case study countries (India, South Africa, Cambodia, Nepal, Uganda and Zambia) are much nearer developed world levels. In India and South Africa, the prices were often low (presumably reflecting some relatively low input costs, for example for labour and accommodation).⁷³ The team found this to be an encouraging finding, which gave grounds for expecting price reductions also in the LDCs⁷⁴ as their markets grew and ISP competition became effective. However, the team also found negative results in relation to access by end-users to the internet:

- Often users had to provide expensive terminal equipment such as a personal computer (PC), paying in excess of world prices due to import taxes and distribution costs;
- Even with lower price levels, access was still hard for the great majority of people, due to lower income levels.
- Average usage times were low in countries with high usage-based charging components;
- Dial-up users outside main cities often had to pay for connected time at long-distance call rates. Without tariff rebalancing, such rates could be very high (and this element of end-user cost was likely to dominate the user's bill). The team found this to be true in all four LDCs;
- Even with reasonable unit pricing, especially in the LDCs, total bills tended to be much higher than would be expected given the actual activities carried out on-line, because of poor network quality, leading to long down times, multiple call attempts per successful connection, and unduly long connection times to complete specific tasks.⁷⁵

In the Internet Costs Study, the team also identified a number of policy options to help deal with the local community problems they discovered. These policy options included liberalisation and regulation of telecoms within the developing countries, with a primary focus on effective competition for both international and domestic leased-lines, and on permitting internet telephony. They also included sharing between developing country carriers and ISPs the revenues paid by users for calls to the internet, making better use of scarce international bandwidth, for example by setting up local and regional internet exchange points and by caching content, and developing alternative lower-cost technologies, with a focus on wireless and cheap terminal equipment. Most of

⁷² Ibid.

⁷³ Ibid., see Section 3.1 DFID Internet Costs report.

⁷⁴ Four of our case study countries (Cambodia, Nepal, Uganda and Zambia) which fall into the United Nations Least Developed Country (LDC) category.

⁷⁵ Supra note 70, Section 3.1, DFID Internet Costs Report.

these solutions can be seen as operating at the *macro* or national level and are in line with the 'Modernisation' school of thought discussed above.

Soeftestad and Sein also discuss the use of AT, which is discussed above. Repeating again their argument that: 'To be appropriate, technology must be connected to the place, resources, economics, culture, and impact of its use'.⁷⁶ In short, effective ICT in development requires a human and cultural-centred approach. This approach was confirmed by the author in research on the use of ICTs in Jamaica for the Berkman Centre for Internet and Society (Harvard Law School). The author used a template (a *Readiness Assessment*) in researching the use of ICTs in urban and rural areas of Jamaica.

Readiness is the degree to which a community is prepared to participate in the Networked World. It is gauged by assessing a community's relative advancement in the areas that are most critical for ICT adoption and the most important applications of ICTs. When considered together in the context of a strategic planning dialogue, an assessment based on these elements provides a robust portrayal of a community's Readiness. The value to a community of assessing its Readiness lies in evaluating its unique opportunities and challenges.⁷⁷

The readiness assessment is based on a methodology developed by the Information Technologies Group at the Center for International Development at Harvard University.⁷⁸ As a guide to understanding ICTs and development, the methodology looks at the ICT environment through five lenses:

Networked policy

By looking at Trade Policy and the Telecommunications Regulatory Environment this category helps to determine whether the national policy facilitates and fosters ICT development in the country or region.

Networked access

This category looks at indicators such as Information Infrastructure, Internet Availability, Internet Affordability, Network Speed and Quality, Software and Hardware, and Service and Support in order to build an understanding of the relative ease and quality of access to IT and the Internet.

Networked learning

How has ICT been used and applied in the learning environment by students and teachers throughout primary, secondary and tertiary education? What is the quality and supply of the labour force trained in ICT?

⁷⁶ Supra note 56, p. 70.

⁷⁷ The Readiness Template can be accessed at 'Readiness for the Networked World', www.readinessguide.org, accessed September 2005.

⁷⁸ www.cid.harvard.edu/ciditg

Networked economy

How advanced is the use of the Internet for business-to-business and business-to-consumer electronic commerce? Moreover, how has the government adopted the use of IT for government citizen services and procurement?

Networked society

How intensively is ICT integrated in everyday life? Are there significant opportunities available for those with ICT skills? What is the quantity and quality of local content? How are people and organisations utilising ICT?⁷⁹

The Jamaica study results reveal findings that reflect Soeftestad and Sein's view of appropriate technology. For example, the author found that ICTs could not be introduced into a community with the expectation that the community will immediately adopt them. Many schools in Jamaica have benefited from the introduction of computers, but without adequate teacher training in the use of the computers and also good access given to the children, the computer lab either becomes a place that is kept under lock and key or quickly deteriorates due to a lack of appreciation for the importance of maintenance. The research revealed that it was imperative that funding be targeted at tertiary institutions of learning that are equipped to train teachers in the use of ICT in the curriculum.⁸⁰ Also, the use of small-scale pilot projects to help inform later and larger projects was very useful in Jamaica. Introducing a pilot project in a particular area encouraged other infrastructure requirements and systems needed by the pilot and which would make it successful. In this way, the pilot becomes a catalyst for change. Well-thought-through ICT projects that take into account the needs of the community and the user interface forced both investors and the local community to think about the development of other systems that first need to be put in place before the pilot could succeed. This need to understand the requirements of end-users on the ground was the important lesson arising from putting in place a system of e-government in Portmore (a district in Jamaica) and funded by the Netherlands-based development NGO, the IICD. However, all the successful ICT projects in Jamaica, including music, educational learning, e-government, agriculture, improving business efficiency, have had at their core one important principle: the need first to identify the local demand and satisfy that local demand before building complicated IT systems. ICTs needed to be understood in the context of everyday life, and the success of the take-up of ICTs depended on how readily the technical people

⁷⁹ The Readiness Template can be accessed at 'Readiness for the Networked World', www.readinessguide.org, accessed September 2005.

⁸⁰ See Executive Summary, Jamaica Report.

could satisfy the local demand for service and more importantly whether the final beneficiaries of the project are involved in its design and inception.⁸¹

Furthermore, development assistance need not be restricted to NGOs or purely government-funded projects. Sometimes funding through government organs could lead to a lack of efficiency at best or outright corruption at worst. And yet a small amount of technical assistance provided directly to well-thought-through commercial pilot programs could lead to dramatic improvements in working practices for small businesses nationwide. For example, the USAID-funded *New Economy Project* (NEP) was involved in providing technical assistance and management consultancy to a number of commercial entities in Jamaica that were specifically involved in helping improve the business processes of smaller Jamaican SMEs. In one case, the NEP worked with a private company called Management Control Systems (MCS.com) to provide on-line payroll and tax services to small companies that did not have the resources to produce their own payroll records, wage slips and tax returns. At the time, the project served a projected market of around 2,000 to 2,500 firms in Jamaica. In other words, for an initial investment of US\$90,000, the NEP could potentially deliver benefits to over 2,000 Jamaican firms.⁸²

Clearly the findings in Jamaica support the argument for AT. However, the author's findings in other research studies, for example the Internet Costs and ICTs Studies discussed above, also point the way to macro policy solutions operating at the national level. Furthermore, many of the ideas suggested by the author in this book – the Layering Theory for increasing transparency of access to incumbent networks in developed countries by third country operators (Chapters 6 and 8); using the new modes of operation in reverse (Chapter 7); the use of competition law in ensuring beneficial technology transfer and to check the potential abuse of monopoly IPR rights by MNCs (Chapter 8); suggestions for amendments to the US Trade Act 2002 (Chapter 9) and suggestions by the CIPR for an extension granted to LDCs for patent protection to pharmaceuticals to 2016 to be broadened to cover the implementation of the TRIPS as a whole, and that the TRIPS Council consider introducing *criteria* based on Article 66.1 TRIPS (indicators of economic development and scientific and technological capability) to decide the basis on which LDCs should enforce their TRIPS obligations after 2016 (Chapter 9) – are all suggestions that follow the 'Modernisation' school of thought discussed above. These suggestions also fall neatly into line with the school of 'law and development' discussed above. Although the author agrees with Soeftestad and Sein's view of alternative development (for example in light of the Jamaica case study),

⁸¹ See Summary of Findings, Jamaica Report.

⁸² See 'Networks Summary' section of Jamaica Report.

the author suggests that such a view is more appropriate to the actual use of ICTs in development *projects* at the local community level, but that in order to address the Digital Divide, national and international measures are also required, which by virtue of the globalised nature of the communications industry, require those measures to conform with IEL, predominantly driven by the West. Gordon and Sylvester are particularly scathing of international law. They argue:

International law is based in part on shared interests, but it is also based on power and that power resides with the industrialized world, and more particularly these days, with the United States. Law has been used in the service of development and as a mechanism to control the Third World, through such principles as prompt, adequate and effective compensation . . . International law proved incapable of assisting the non-West, for its purpose is to serve the West. In the era of globalization, international law will be an even stronger part of the edifice that locks the Third World into chasing a future that is made in the West through the discourse of Development.⁸³

There is no doubt some truth to this. However, the RTD Theory, which the author sets out below, as well as the RTD Tax Relief are also measures which are intended to operate at both the international and national levels, and again follow the ‘Modernisation’ school of thought. The author suggests that what is needed in order to truly address the Digital Divide is a combined approach utilising both AT at the local community level, but also aspects of IEL as set out in this book, for example legislative measures in telecommunications law, competition, intellectual property, trade and investment. In effect, the author is suggesting that those very measures that Gordon and Sylvester rightly attack also be the instruments that DCs and LDCs should use in order, in this instance, to address the Digital Divide. In Section 10.4, the author discusses how the RTD can be enforced through IEL.

10.4 ECONOMIC DEVELOPMENT

In Section 10.2 (Outline Background to the UN Right To Development), the author set out the series of events that eventually led to the RTD. The author also explored criticisms of the RTD and described the position taken by different Member States, particularly the United States, in relation to the RTD, and also some of the UN agencies. The justiciability of the RTD was also mentioned, but is discussed further below. In this section, the author discusses the US Administration’s MCA and sets out ideas for a new RTD Theory and

⁸³ Gordon and Sylvester, *supra* note 5, p. 17.

RTD Tax Relief, which he argues could be a realistic compromise between the MCA (pushed by the United States) and the RTD (pushed by the coalition of G-90 and specifically the *Like-Minded Group*,⁸⁴ mentioned above in Section 10.1). The UK's Commission for Africa is also discussed, together with a brief overview of the European Communities' Development Policy.⁸⁵

10.4.1 The US Millennium Challenge Account (MCA)

In his speech at the Monterrey Conference in Mexico, March 2002, President Bush launched the MCA, which would utilise a proposed \$5 billion annual increase in Overseas Development Assistance. Funds from the MCA were to be made available to projects in countries where political administrations governed justly, invested in their people and encouraged economic freedom.⁸⁶ In order to receive MCA funds, DCs and LDCs need to prove that they will follow or are following three crucial goals: (i) good governance, (ii) the health and education of their people; and (iii) sound economic policies that foster enterprise and entrepreneurship. In many respects, the MCA follows the concept of 'good governance' that Gordon and Sylvester suggest is the current 'reincarnation' of the law and development movement, discussed above in Section 10.2 and which has the aim of both limiting the power of the state in the economy while simultaneously expanding the role of the market. In 2004, President Bush signed the law creating the Millennium Challenge Corporation (MCC), which is to administer the MCA. Marks, in his article 'The Human Right to Development: Between Rhetoric and Reality',⁸⁷ makes a detailed comparison between the RTD and the MCA. He argues that in many respects the MCA contains many of the principles to be found within the RTD, including the Independent Expert's RTD-Development Compact (discussed below). For example, he argues that both the RTD and the MCA contain provisions on the mutuality of obligations, and that the focus on governance, including human rights, and on health and education overlap with the RTD-DC.⁸⁸ There are also significant differences. For example, the RTD foresees multilateral funding, whilst the MCA is to be administered by the MCC, a single US entity.⁸⁹

⁸⁴ Algeria, Bangladesh, Bhutan, China, Cuba, Egypt, India, Indonesia, Iran, Malaysia, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, Sudan and Vietnam.

⁸⁵ COM(2005)311, *Proposal for a Joint Declaration by the Council, The European Parliament and the Commission* ('The European Consensus'), 13 July 2005.

⁸⁶ President George W. Bush, Remarks at the International Conference on Financing for Development at: <http://www.un.org/ffd/statements/usaE.htm>, accessed September 2005.

⁸⁷ *Supra* note 6.

⁸⁸ *Ibid.*, p. 16.

⁸⁹ *Ibid.*, p. 17.

Furthermore, the sixteen specific indicators that the MCC is to use to determine MCA funding includes little on human rights when compared to the RTD-DC, which sets as a condition that all human rights (both economic, cultural and social, and civil and political rights) that fit within the composite RTD should be realised or at least not diminished. Under the MCA, in order to qualify for funds, a country must score above the median on half of the indicators in each of the three groups (six for ruling justly, four for investing in people and six for economic freedom), and score above the median on corruption regardless of the ranking for the other indicators.⁹⁰ Marks has concerns over some of the indicators, particularly the indicators used for ‘ruling justly’, as he argues that two of the sources for these indicators (Freedom House and the Heritage Foundation) are politically biased:

Freedom House and the Heritage Foundation are clearly identified with the political right and tend to represent the neoliberal approach to economic issues. These sources are consistent with the known preferences of the Bush Administration. However, a program that is expected to be applied to a wide range of countries over a long period of time would be more credible if it drew on a more diverse set of sources.⁹¹

The sources for other indicators used by the MCA include the IMF and the World Bank, the two Brettons Woods institutions that Gordon and Sylvester argue so vehemently against. Clearly there is a danger that access to MCA funds will be governed by mere statistics. For example Marks argues:

The reliance on Freedom House may be presumed to be based on the fact that it produces a numerical ranking of countries. The use of this source as the sole performance indicator of human rights could mean that crucial decisions affecting billions of dollars and millions of lives will be based on the reduction of complex social and political systems to a single number or ranking.⁹²

He also argues that the MCA could have adopted the UNDP’s Human Development Index (HDI) as its source for the indicator for ‘investing in

⁹⁰ Ibid, p. 18, citing Steve Radelet, ‘Will the Millennium Challenge Account Be Different?’, *Washington Quarterly*, Spring 2003, at p. 171.

⁹¹ Ibid, p. 21.

⁹² Ibid. Marks at p. 23 also refers to the ‘Commitment To Development Index’ (CDI), which was created by the Center for Global Development and Foreign Policy, and which measures as its title suggests, the commitment by any one country to development and to global partnerships. The CDI compares not only the dollar amount provided in aid, but it factors in qualitative and quantitative features of policies that affect poor countries, including aid, trade barriers, the environment, investment, migration and peacekeeping. According to Marks, both the US and Japan rank at the bottom of the CDI.

people'. The HDI is designed to highlight the extent to which governments invest in people, with a focus on education and health. The HDI is also used in the *Human Development* paradigm referred to by Soeftestad and Sein, mentioned above in Section 10.3 (ICTs and Development). The next section discusses other finance schemes, specifically for Africa, proposed by the British government and its Commission for Africa.

10.4.2 The UK Commission for Africa and the European Consensus

In 2005, the UK government launched its impressive 'Our Common Interest: Report of the Commission for Africa' ('Africa Report'), as part of its drive to see that the *Millennium Development Goals* (MDGs) are fulfilled by 2015. The Africa Report also stresses the significance of economic growth for Africa, suggesting a range of economic growth policies and stressing: 'robust competition laws and policies, with strong institutions to enforce them, are vital to improving productivity and to promoting innovation and better prices'.⁹³ The report is in line with the school of 'Law and Development' discussed above in that it stresses the need for good governance, but also argues that policies implemented must promote long-term growth and reflect the country context. In discussing the investment climate in Africa, for example, the Africa Report stresses the need to improve the environment for domestic investment, but also to support foreign investment, for example in enforcing commitments made in the G-8 Africa Action Plan at the Summit in Kananaskis 2002, and reinforced at the G-8 Summit in Sea Island 2004.⁹⁴ Investment is also the focus of the 2005 *World Development Report* 'A Better Investment Climate For All', which supports the idea that enhancing the investment climate, particularly for agriculture and for rural areas, will significantly accelerate economic growth.⁹⁵ The Africa Report also discusses setting up an Investment Climate Facility (ICF) which will require US\$550 million over seven years, and which will be used to invest in over 300 projects in Africa. Through the New Partnership for Africa's Development (NEPAD) programme, the ICF will focus on putting in place legislation, regulation and policies to enhance competition policy, strengthen the private sector and investment councils. In this respect, there are similarities with the US MCA, except for one important difference, the ICF is to have African ownership and is to be backed through the *Multilateral Investment Guarantee Agency*

⁹³ 'Our Common Interest: Report of the Commission for Africa' ('Africa Report'), p. 222.

⁹⁴ Interestingly however, nowhere in the Africa Report is the UN Right to Development mentioned.

⁹⁵ *Ibid.*, para. 37.

(MIGA) of the World Bank that will provide insurance to private (foreign) investors. Domestic (African) investors cannot (currently) be covered due to the MIGA's current convention.⁹⁶ Whether this will change in the future remains to be seen. The report envisages a range of private investment, particularly in infrastructure. The sector for ICTs will benefit as this is seen by the report's authors as a crucial area for Africa both in terms of improving efficiency but also in assisting with the move from the current dependency by many African countries on commodities to services. The report argues that the 'benefits of ICT are far-reaching – connecting schools to the internet, enabling remote rural communities to get urgent medical advice by phone, giving farmers access to market price information, and potentially halving the costs of sending remittances'.⁹⁷ In helping to tackle the Digital Divide and investing the resources in the ICT needed to enable Africa to participate in the global knowledge economy, the report argues that the international community will need to move to funding at least \$20 billion a year in infrastructure.⁹⁸ In terms of getting greater private sector participation, the Africa Report also calls for the creation of a US\$100 million Africa Enterprise Challenge Fund to support a private sector initiative that will contribute to small enterprise (SME) development by increasing access to markets. This is an important provision as micro SME funding will have a direct impact on local communities as borne out by the author's research (Jamaica Case Study) and also in helping to achieve the Human Development and Alternative Development paradigms mentioned above in Section 10.3. In effect, the Africa Report envisages: doubling aid levels over the next three to five years (resulting in US\$51.5 billion of aid reaching Africa by 2008–10); 100% debt cancellation; meeting existing obligations to achieve the 0.7% ODA/GNI target by raising finance from an International Finance Facility (IFF);⁹⁹ and by developing international

⁹⁶ Ibid, para. 56.

⁹⁷ Ibid, para. 62.

⁹⁸ Ibid, para. 74. The report argues that to do this, developed countries should provide an extra \$10 billion a year up to 2010, and subject to review, a further increase to US\$20 a year in the following five years. This would support African regional, national, urban and rural infrastructure projects including roads and slum upgrading to ICT and infrastructure required to support greater integration of Africa's regions. See para. 67.

⁹⁹ This would work by immediately raising funds on the capital markets, front-loading aid on the strength of future aid commitments already made by donors. The Africa Report suggests that the revenues needed to pay for a frontloaded 10 hump in spending would then be smoothed out through borrowing. The report suggests that the IFF, if implemented by all countries, would provide an additional US\$50 billion a year in development assistance in the years to 2015, providing the funds necessary to reach the MDGs by 2015. Based on donors' legally binding long-term commitments, the IFF would leverage money from international capital markets by issuing bonds (see para

levies, for example in the form of a tax on airline tickets with revenues dedicated towards development.¹⁰⁰ The airline ticket levy is an interesting option. According to the report, the levy would be voluntary to reflect some of the costs of carbon emissions. The report argues that being voluntary, the levy would avoid many of the difficult issues involved in getting an international agreement on taxation. The RTD Tax Relief, which the author discusses in Section 10.5.1.5 below, would also not require an international agreement on taxation, but the cooperation of individual states to introduce the measure in national legislation, and also the WGTT to formulate effective criteria for the tax relief to work. However, in suggesting an airline levy, the British government is demonstrating, at least in part, that it is open to the idea of a further tax, albeit a voluntary one.

EU development policy covers all developing countries that benefit from public development aid and as listed by the OECD development aid committee.¹⁰¹ The thrust of the EU approach is in supporting the international development agenda as agreed at the September 2000 Millennium Declaration. The eight *Millennium Development Goals* (MDGs) are the result of negotiations between the UN Member States for a timetable of development to 2015, and include to:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce the mortality rate of children
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

ICTs can help support the achievement of several of these goals. The eradication of poverty will be dependent on sustainable growth. Research reviewed in Chapter 2 indicates that growing information technology levels lead to growth of GDP. By broadening the availability and quality of educational material and improving educational administration and policy, ICTs can help support the development of primary education. ICTs can also help improve healthcare

136). However one danger of this approach (borrowing from future aid budgets to pay for the present) is that in the future, less aid will be available to meet commitments.

¹⁰⁰ Africa Report, p. 292.

¹⁰¹ COM(2005)311, *Proposal for a Joint Declaration by the Council, The European Parliament and the Commission* ('The European Consensus'), 13 July 2005, p. 6.

provision by providing channels for the provision of treatment, consultation and diagnosis.¹⁰² Improving healthcare will help improve child mortality. The UNDP's *Human Development Report* cites that if current trends continue, failing to meet the MDG target for child mortality that will result in 4.4 million avoidable child deaths by 2015 – equivalent to three times the number of children under 5 in London, New York and Tokyo.¹⁰³ The MDGs build on the financing commitments of the Monterrey Conference on Financing and the Johannesburg Summit on Sustainable Development. As part of its programme of development and trade, the European Commission has stated that its bilateral and unilateral preference schemes will remain as development tools, despite the fact that the conditionality of its approach to GSP schemes has already been successfully challenged.¹⁰⁴ As part of its Development Consensus, the EU plans to increase aid budgets (public development aid), aiming to reach 0.7% of gross national product by 2015 (the target set for realisation of the MDG goals), and aims to set an interim collective target of 0.56% in 2010.¹⁰⁵ One main development priority for the Commission is to maintain what it calls its *principle of concentration*, which means selecting a limited number of areas for action when Community aid is being set. The selection process will be done at both country and regional levels. The idea is not to spread aid too thinly. As to financing aid programmes, the Commission plans to use budget support as the preferred aid modality following OECD/DAC *Good Practice Guidelines* on budget support¹⁰⁶ and also pushing microfinance where the focus is on capacity building. The approach taken by the Commission with microfinancing is to be applauded, the benefits of helping local people rise out of debt in local communities already having been borne out by the author's own research in Jamaica for example.¹⁰⁷ The Commission's approach in stressing good governance and support for economic and institutional reforms falls very much into the 'Modernisation' and 'Law and Development' schools of thought discussed above.

In summary, we can see that the US MCA is in part dependent on indices that do not stress the significance of human rights. The UK approach is to involve human rights, but again to lay emphasis on modernisation-type policies of competition law and investment. The author's own approach to addressing

¹⁰² UNCTAD, *Information Economy Report*, 2005, p. xvii.

¹⁰³ UNDP, *Human Development Report*, 2005, p. 5.

¹⁰⁴ WT/DS246/AB/R, 7 April 2004. Discussed in Chapter 9.

¹⁰⁵ COM(2005)311, *Proposal for a Joint Declaration by the Council, The European Parliament and the Commission* ('The European Consensus'), 13 July 2005, p. 12.

¹⁰⁶ *Ibid.*, p. 18.

¹⁰⁷ See the case study on Jamaica: *supra* note 69.

the Digital Divide is a form of compromise between the two, using the RTD as a stepping-stone to achieve a RTD Tax Relief that will encourage the kind of beneficial technology transfer and FDI discussed in Chapter 8. The next two sections look at how this can be achieved.

10.5 ENFORCING THE RTD THROUGH INTERNATIONAL ECONOMIC LAW

In this section, the author is concerned with how the RTD can be effectively enforced through domestic and international economic law. In doing so, he puts forward an *Economic Right to Development Theory* (the 'RTD Theory') which aims to show the relationship between the RTD as a composite of human rights on the one hand¹⁰⁸ and Foreign Direct Investment (FDI) and GDP on the other. In making reference to indicators such as FDI and GDP, the RTD Theory is clearly based on a concept of *economic growth* and *New Growth Theory* (discussed below), an ideological position favoured by the United States. For example, in his testimony to the House Financial Services Subcommittee on Domestic Monetary Policy, Technology and Economic Growth, USAID Administrator Andrew Natsios said: 'put simply, economic development assistance in poor countries works best when you are pursuing good policies that are conducive to growth'.¹⁰⁹ Marks also quotes the Heritage Foundation as saying: 'Adherence to policies that promote economic freedom should be the most heavily weighted of the three broad criteria that countries must meet in order to qualify for MCA funding. Only economic freedom, which depends on the rule of law, leads to higher per capita income and the alleviation of poverty'.¹¹⁰ As we have seen, Marks' criticism of the US approach, particularly as regards the MCA, is that it makes very little reference to human rights. However the RTD, which is very much concerned with the vector of human rights that the Independent Expert refers to, also seeks to integrate growth theory. The important difference between the RTD and the US position is that the RTD emphasises that equity should not be sacrificed for

¹⁰⁸ Notwithstanding that the RTD is a *composite* of the human rights to be found in the ICCPR and ICESR. See Section 10.5.1 below.

¹⁰⁹ Marks, *supra* note 6, p. 22, citing Statement of Andrew Natsios, Administrator, US Agency for International Development, Millennium Challenge Account: Hearing Before the Subcomm. on Domestic Monetary Policy, Tech., and Econ. Growth of the House Comm. on Fin. Services, 108th Congress, 2003.

¹¹⁰ *Ibid*, p. 22, citing Paolo Pasicolan and Sara J. Fitzgerald, 'The Millennium Challenge Account', Background No. 1602, available at: <http://www.heritage.org/Research/TradeandForeignAid/bg1602.cfm>, accessed September 2005.

growth. For example, the (then) Independent Expert (Sengupta) refers to growth as being part of the RTD: 'We must include the growth of resources, such as GDP and technology, as an integral element in the vector of rights that constitute the right to development'.¹¹¹ As mentioned, growth must not be at the expense of equity. Sengupta argues: 'As considerations of equity and justice are primary determinants of the right to development, the whole structure of growth will have to be determined and reoriented by them'.¹¹² The RTD Theory suggested by the author seeks to integrate new growth theory (in line with the school of 'modernization'), but with equity and justice. As such, the author argues that the RTD Theory might be a workable compromise between that of the US's MCA and that of the 'pure vanilla' RTD favoured by the Like-Minded Group. The author argues that putting in place an effective regulatory domestic framework for FDI that will help realise the RTD by way of technology transfer *processes* must also include and facilitate the delivery of fundamental human rights, such as the right to education, health, access to food and freedom of information that forms the composite RTD in the target state, more likely than not a DC and/or LDC.

The author argues that generating the real technology *spillover*,¹¹³ which will help to realise the RTD in the target state, will require balancing foreign investor intellectual property rights (IPR) protection with the use of competition law and potential WTO surveillance to check on misuse of MNC market power on the one hand, with incentivising the international business community to invest in technology transfer to the target state on the other.¹¹⁴ In achieving the latter, the author puts forward a recommendation for introducing a *Right to Development Tax Relief* ('RTD Tax Relief') that will operate in investor states and be administered jointly through the investor state's department for international development and tax revenue departments, and that will apply to any nationally registered MNC under relevant Company Act legislation in the investor state.¹¹⁵

In proposing the RTD theory, the author hopes to link the *human-centred*

¹¹¹ Ibid, citing the Independent Expert, 'Third Report of the Independent Expert on the Right To Development', Mr Arjun Sengupta, Submitted in Accordance with Commission Resolution 2000/5, UN ESCOR, 57 Sess., p. 14, UN Doc E/CN.4/2001/WG18/2, 2001.

¹¹² 'Fourth Report of the Independent Expert on the Right to Development', Mr Arjun Sengupta, Submitted in Accordance with the Commission Resolution 2001/9, UN Doc E/CN4/2002/WG18/2, 2001, p. 12.

¹¹³ Discussed in Section 8.3.4.

¹¹⁴ See also Chapter 8 on technology transfer and Chapter 9 on bilateralism.

¹¹⁵ Discussed in Section 10.5.1.4 (The Legal Obligation) below. The idea for tax relief for companies that license technology to developing countries has already been suggested by the Commission on Intellectual Property (CIPR) in its report on intellec-

RTD with target and investor state obligations under domestic economic law and investor state obligations under IEL, giving for the first time a potential legal mechanism for the implementation of the RTD that will be founded both in equity and justice, and which will have justiciability. Besides demonstrating the link between the RTD and economic law, the author also demonstrates the link through simple economic theory, using a series of (symbolic) equations culminating in *Equation 5* discussed below. The value of Equation 5 is to indicate the economic variables that the RTD could depend on, providing the basis for further research, both legal and econometric, that could test the link between the RTD, FDI and GDP. In addition, more work is needed to understand the process of FDI and any technology spillover that may result in the target state (if any), in particular, to examine the processes of spillover that may have a direct bearing on the RTD where, for example, there is a large technology gap between local domestic and FDI firms.¹¹⁶

10.5.1 The Economic Right to Development Theory

In a recent report by the open-ended working group on the RTD of the Human Rights Commission (Economic and Social Council), the working group states that:

The right to development has been defined as the particular process of development in which all human rights and fundamental freedoms can be fully realized. It is a process of step-by-step progressive realization of all the rights, the implementation of a development policy to realize these rights, and the relaxation of resource constraints on these rights through economic growth. The right to this process has to be viewed as a composite right wherein all the rights are realized together in an interdependent and integrated manner. The integrity of these rights implies that if any one of them is violated, the composite right to development is also violated.¹¹⁷

tual property and development: Chapter 1, 'Intellectual Property and Development', 2002 at http://www.iprcommission.org/papers/text/final_report/chapter1html, accessed February 2005, p. 16.

¹¹⁶ In developing the RTD Theory and Equation 5, the author was reminded of the popular fictional story of *Dr Jekyll and Mr Hyde* by Robert Louis Stevenson. 'It was on the moral side, and in my own person, that I learned to recognise the thorough and primitive duality of man': a quotation from chapter 10 of the book by Stevenson. In looking at Equation 5, we could liken the parameters dealing with human rights in a similar way to Stevenson's fictional character *Henry Jekyll*, demonstrating man's tendency for goodness, his desire to alleviate the suffering of his fellow man and the respect for basic human rights, and *Edward Hyde*, with commercial interests, a potential desire for greed and a potential disregard for the rights of others; and yet they are one and the same man. We can see a similar balance/conflict in Equation 5 with both commercial and human rights variables appearing in the same equation.

¹¹⁷ Preliminary study of the Independent Expert on the right to development, Mr.

In a separate report by the working group in reviewing the progress and the obstacles in the implementation of the RTD, the working group states that:

The Independent Expert has defined the RTD, following Article 1 and the preamble to the Declaration, as a right to a particular process of development in which 'all human rights and fundamental freedoms can be fully realized'. Development is regarded as a process of economic growth, with expanding output and employment, institutional transformation and technological progress of a country that steadily improves the well-being of the people.¹¹⁸

It is this concept of linking the RTD with a *process* of development and as a process of economic growth, which depends to some extent on technological progress that this chapter is concerned with. In this chapter, the author argues that technological processes for the delivery of food (for example, technology transfer for cooling systems in refrigeration trucks), access to health (electronic medical records, machinery for blood sampling and treatment), education (on-line educational resources, technology for educational materials in CD ROM or machine readable format), freedom of expression (access to the internet and communications infrastructure), can all be delivered by way of effective technology transfer, and that technology transfer depends to some extent on international and national frameworks for the regulation of IPRs and competition. The working group on the RTD has made explicit reference to technology transfer and the RTD. For example in its report reviewing the progress of the RTD, the working group states that:

19. Availability of resources – material and human – and access to technology have always been recognized as the forces that drive and sustain the development process. Indeed, access to appropriate technology has often been the more critical input in undertaking development. It has not only been a substitute for other inputs, but has also provided the quantum jumps in attaining outcomes perceived, at some point in time, as being unattainable. It has been the means by which the developing countries have tried to catch up with those that had a head start, and it has been the tool that the developed world has used in attaining and sustaining their well-being and living standards. The issue of access to and transfer of technology is, however, an issue between the developed and the developing world.¹¹⁹

10.5.1.1 The RTD and collective rights

We will come back to the issue of access to and transfer of technology slightly

Arjun Sengupta, on the impact of international economic and financial issues on the enjoyment of human rights, submitted in accordance with Commission resolutions 2001/9 and 2002/69, E/CN4/2003/WG18/2, Geneva 2003, p. 3

¹¹⁸ Consideration of the Sixth Report of the Independent Expert on the right to development, E/CN4/2004/WG18/2, February 2004, p. 4.

¹¹⁹ Ibid, p. 10.

later in this chapter. In developing the theory however, an important question to ask is whether the RTD can apply to a *collective* of people or is it specifically tied to an *individual* living person? The question is important as if the RTD can only be recognised as an individual right, then it would be much more difficult to link (directly) enforcement of the RTD with the regulation of intellectual property or competition at the domestic level, than if the RTD can be linked directly to a collective of people. The reason for this is that the regulation of intellectual property and/or competition is *economic* law, and from the perspective of English law for example, economic law comprises the regulation of *state* interference with the affairs of commerce, industry and finance.¹²⁰ The eminent legal scholar and jurist, Clive Schmitthoff, once argued that

English economic law shows two characteristics. First, it has evolved the central concept of public interest and, secondly, its fabric is very different from that of other branches of law . . . The new concept of public interest is used to indicate the wide – and growing – area in which Parliament has regulated certain activities of private persons in the social and economic sphere because it considers such regulation to be desirable for the common weal. The concept of public interest is thus a socio-political concept.¹²¹

In a similar vein, the noted international trade lawyer and legal jurist, John H. Jackson, once defined international economic law as embracing ‘trade, investment, services when they are involved in transactions that cross national borders, and those subjects that involve the establishment on national territory of economic activity of persons or firms originating from outside that territory’.¹²² We can see therefore that from such guidance, a link between economic law and ‘people’, as a collective, can be easily established, but not as easily linked perhaps to an individual, although more recent legislative frameworks for competition law are increasingly recognising the interests of individuals, such as the ‘consumer’ in policy-making, for example in the regulation of electronic communications services.¹²³ The question therefore is to determine whether the RTD applies only to individuals or also gives rise to collective rights: If the latter, then it becomes easier to link the RTD with a

¹²⁰ Sealy, L.S., and Hooley, R.J.A., *Commercial Law, Text Cases and Materials*, 3rd edition, Lexis/Nexis Butterworths, p. 31.

¹²¹ Schmitthoff, C.M., ‘The Concept of Economic Law in England’, *Journal of Business Law*, 1966, 309, pp. 315, 318–19, cited in Sealy and Hooley, *ibid*.

¹²² Jackson, J., *The World Trading System*, MIT Press, 1989, 21–2.

¹²³ See OFCOM’s guidelines on handling competition complaints at: http://www.ofcom.org.uk/consult/condocs/resp/eu_directives/guidelines.pdf, accessed February 2005.

system of economic law, and therefore the regulation of transfer of technology (and hence IP and competition frameworks). The importance of making this link is to then realise the RTD through effective enforcement of domestic economic law in the target state, and also to look for economic solutions that can be equally enforced in investor states.

In reading the Declaration, Article 2(1) sets out the RTD as a *human-centred* right:

The human person is central subject of development and should be the active participant and beneficiary of the right to development.

However at the same time, the then Independent Expert (Arjun Sengupta) also refers to the *collective* rights that arise as a consequence of the Declaration.¹²⁴ He argues that the right to development was promoted both by Third World protagonists and First World critics as a ‘collective right of states and of peoples for development’.¹²⁵ This is an indirect reference to the concepts of PSNR and NIEO discussed earlier in Section 10.2. Article 1 Declaration recognises the collective rights of peoples by stating: ‘all peoples are entitled to the human right to development’.

In discussing collective rights, the Independent Expert cites Georges Abi-Saab, who suggests a possible definition of collective rights as a sum total of double aggregation of the rights and of the individuals. (If there are n different rights, r_i , $i = 1, \dots, n$, and if there are m different individuals $j = 1, \dots, m$, having these rights, the collective rights will be $R = \sum_i \sum_j r_{ij}$).¹²⁶ In effect,

¹²⁴ Collective rights need to be distinguished from *group* rights. In the case of collective rights where the rights holders are individuals, the individuals are the direct beneficiaries. For group rights, the groups hold the rights and are the beneficiaries as regards specified criteria leading to the increase in the value or interests of the group. In the context of this chapter, the RTD can be described as a collective right as opposed to a group right. More fully, it can be argued that the RTD is an individual right that can be exercised collectively by all the citizens of a country, where the rights holders are individuals, and the collective is recognised in order to realise the RTD through a collective development policy. It is possible for the RTD to also exist as a group right, when for example it is necessary to give certain rights to minorities and indigenous peoples, where special development policies need to be designed for such groups. A full discussion is outside the scope of this chapter. See ‘Considering Collective Rights, Group Rights and Peoples’ Rights’ at http://www.minorityrights.org/Legal/development/rtd_pt1_considering.pdf, accessed February 2005, p. 10.

¹²⁵ A. Sengupta, ‘The Right to Development as a Human Right’, 2000, at http://www.hsph.harvard.edu/fxcenter/FXBC_WP7—Sengupta.pdf, accessed September 2005, p. 11.

¹²⁶ Ibid, p. 12. The Independent Expert cites George Ali-Saab (The Hague Academy of International Law), *The Right to Development at the International Level*, The Hague, 1975.

this equation links individual rights and the rights of the collective. The Independent Expert goes on to argue that

In the case of a collective right, such as that to self determination, the right-holder may be a collective such as nation, but the beneficiary of the exercise of the right has to be an individual . . . Indeed, in many cases individual rights can be satisfied only in a collective context, and the right of a state or nation to develop is a necessary condition for the fulfilment of the rights and the realization of the development of individuals.¹²⁷

In one of its reports, the open-ended working group on the RTD (under the ESC Commission on Human Rights) has argued that ‘the realization of the right to development is seen as the fulfilment of a set of claims by people, principally on their State but also on the society at large, including the international community, to a process that enables them to realize the rights and freedoms set forth in the International Bill of Human Rights.’¹²⁸

The Independent Expert also argues that in understanding the concept of collective rights and its link to the process of development, three fundamental criteria need to be met in realising the RTD:

- (a) effective participation of all individuals in the decision-making and the execution of the process of development, which would necessarily require transparency and accountability of all activities; and
- (b) equality of access to resources; and
- (c) equity in the sharing of benefits.¹²⁹

We see here a strong reflection of the ideas expressed by the school of *Alternative Technology* and the *Human Development* and *Alternative Development* Paradigms discussed above in Section 10.3 ICTs and Development. In applying Sengupta’s criteria to the development of the RTD Theory and the establishment of a RTD Tax Relief, it can be argued that: (a) will be satisfied in the target state if a fully transparent legislative procedure involving the executive, judiciary, the legislature and civil society of the target state is able to pass economic law (competition and IP laws) that will realise effective technology transfer in the target state; and (b) will be satisfied if

¹²⁷ Ibid.

¹²⁸ *Consideration of the 6th Report of the Independent Expert to the Right to Development*, UN Economic and Social Council, E/CN4/2004/WG18/2, Geneva, February 2004, para 3. In this same report at p. 20, the International Bill of Human Rights is defined as mainly comprising the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights.

¹²⁹ Ibid.

technology transfer can lead to technology being accessed and used in a fair and equitable way for the benefit of *all* members of the community of the target state (and particularly at the local community level following the Human Development and Alternative Development Paradigms); and (c) will be satisfied if the benefits of the technological processes delivered through technology transfer actually lead to improved access to food, education, health and freedom of expression for all members of the community of the target state. As the Independent Expert argues, the three criteria (a)–(c) are ‘the essential elements of the process of development which make the right to that process a human right and which are the foundation of a right to development – development with equity and justice’.¹³⁰

10.5.1.2 The RTD and economic law

Having linked the RTD to collective rights, it now becomes necessary to examine more closely how the RTD can be linked with economic law. To begin this process, it would first be helpful to look at the *Vienna Declaration 1993*,¹³¹ which established the consensus of the RTD as a human right (and which the United States accepted). Paragraph 10 of the Vienna Declaration states that: ‘Lasting progress towards the implementation of the right to development requires effective development policies at the national level, as well as equitable *economic relations* and a favourable *economic environment* at the international level’.¹³² The Vienna Declaration clearly states that the RTD requires a favourable economic environment at the international level, which using economic terminology can be re-stated as, the RTD is a *function* of an equitable economic environment at the international level. An equitable economic environment at the international level can in turn be described as a function of the effective regulation of IEL. The regulation of IEL will depend on international treaties dealing with economic issues such as trade, competition, intellectual property rights, and technology transfer, and primarily the WTO’s TRIPS Agreement.

As discussed in Chapters 9 and 10, the TRIPS creates a number of obligations on the international community for technology transfer, particularly as regards DCs and LDCs. For example, Article 66.2 TRIPS Agreement, which calls for developed country Members to ‘provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base’. Furthermore, paragraph

¹³⁰ Ibid, p. 13.

¹³¹ *Vienna Declaration and Programme of Action*, adopted by the UN World Conference on Human Rights, A/CONF157/23, 25 June 1993.

¹³² My emphasis.

11.2 of the *Doha Decision on Implementation-Related Issues and Concerns* (the ‘Implementing Decision’) reaffirms that the provisions of Article 66.2 are *mandatory*, and that the TRIPS Council ‘puts in place a mechanism for ensuring the monitoring and full implementation of the obligations in question’.¹³³ On 19 February 2003, the TRIPS Council made a decision on implementing Article 66.2 in compliance with paragraph 11.2 Implementing Decision, requiring developed country Members to submit annual reports on actions taken or planned in pursuance of their commitments under Article 66.2.¹³⁴

With the failure of the discussions at Doha, there should perhaps be further movement here. For example, in a Decision (*General Cancun Decision*) adopted by the WTO’s General Council in August 2004, the Council has instructed the Committee on Trade and Development to ‘expeditiously complete the review of all the outstanding Agreement-specific proposals on special and differential treatment and report to the General Council, with clear recommendations for a decision’.¹³⁵ Provisions on special and differential treatment affect DCs and LDCs in that they grant such countries certain preferences at the WTO. We will, however, have to wait and see whether the review will have any meaningful outcome for DCs and LDCs.¹³⁶ A committee has been created to look into the Special and Differential Rights (S&D) of DCs and LDCs. The committee is to look at alternative ways of achieving S&D, for example making legal recourse to dispute settlement conditional on applying a test of whether trade policy meets development objectives. The test would focus on the likely net effects of *not* implementing WTO rules in favour of a more development-orientated trade policy.¹³⁷ If such a test was created and which gave legal recourse to the WTO’s, DSB, then enforcement of Article 66.2 TRIPs for the benefit of DCs and LDCs would become more of a reality.

¹³³ WT/MIN(01)/17, Article 11.2. Around 100 implementation issues were raised in the lead-up to the Doha Ministerial Conference. The implementation decision, combined with paragraph 12 of the main Doha Declaration, provided a two-track solution for agreeing some of implementation issues prior to the Doha Round. According to the WTO, more than 40 items under 12 headings were settled at or before the Doha conference. See the WTO website at: http://www.wto.org/english/tratop_e/dda_e/dda_e.htm#implementation, accessed October 2004.

¹³⁴ IP/C/28.

¹³⁵ Clause 1(d), WT/L/579.

¹³⁶ In October 2004, the WTO Committee on Trade and Development produced a report listing all the special and differential treatment provisions to be found in the WTO covered agreements for LDCs. See WT/COMTD/W/135, October 2004. The report simply lists the provisions, but makes no recommendations going forward.

¹³⁷ See ‘Our Common Interest: Report of the Commission for Africa’, UK Government, 2005, para 114.

As mentioned in Chapter 8, in an ideal world, an effective IPR regime should not block innovation or effective competition in the target state. Article 7 TRIPS Agreement sets out the objective that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology. Furthermore, the TRIPS Agreement also contains a number of provisions that deal with anti-competitive conduct, including Articles 8 and 40 (see Chapter 8). Article 8.2 allows for Members to adopt ‘appropriate measures’ to prevent the abuse of intellectual property rights by rights holders or the resort to practices which ‘unreasonably restrain trade or adversely affect the international transfer of technology’. Again under Article 40.2 TRIPS, Members may adopt appropriate measures to prevent or control anti-competitive practices. Article 31 TRIPS sets out the *conditions* for compulsory licensing¹³⁸ (see Chapter 8). However, in order to implement such measures, LDCs and DCs are left with the task of putting in place effective IPR legislation, which requires both trained personnel and resources.¹³⁹ In the area of human rights, we can also find obligations on the international community in finding solutions to international economic problems, as for example under Articles 1, 55¹⁴⁰ and 56 of the United Nations Charter which specifically make reference to international cooperation in solving international problems of an economic nature. Both the TRIPS and the UN Charter are legally binding treaties, the TRIPS in particular, given the availability of sanctions under the WTO’s Annex on Dispute Settlement.¹⁴¹ Furthermore, the RTD Declaration itself contains specific

¹³⁸ Selected conditions include: authorisation to be based on individual merits, requirements for the rights holder to have already been approached with a reasonable offer of licensing (unless a national emergency applies), in the case of semiconductor technology use restricted only to public non-commercial use or to remedy a practice determined after judicial or administrative process to be anti-competitive, non-exclusive, predominantly for the domestic market, provisions for economic remuneration, possibility of revocation of the licence. Compulsory licences are discussed in Chapter 9.

¹³⁹ In the *General Cancun Decision*, the WTO’s General Council states at para. 1(d) on development that the: ‘Council affirms that such countries, and in particular least-developed countries, should be provided with enhanced TRTA [trade related technical assistance] and capacity building, to increase their effective participation in the negotiations, to facilitate their implementation of WTO rules, and to enable them to adjust and diversify their economies. In this context the Council welcomes and further encourages the improved coordination with other agencies, including under the Integrated Framework for TRTA for the LDCs (IF) and the Joint Integrated Technical Assistance Programme (JITAP).’

¹⁴⁰ Article 55(b): ‘solutions of international economic, social, health, and related problems; and international cultural and educational cooperation’.

¹⁴¹ Annex II WTO Agreement, Understanding of rules and procedures governing the settlement of disputes.

provisions on cooperation at the international level to promote an equitable economic environment. Article 3(3) Declaration states that:

States have the duty to co-operate with each other in ensuring development and eliminating obstacles to development. States should realize their rights and fulfil their duties in such a manner as to promote a new international economic order based on sovereign equality, interdependence, mutual interest and co-operation among all States, as well as to encourage the observance and realization of human rights.

As mentioned earlier however, the Declaration is not a legally binding instrument, although Sengupta has argued that the RTD could in time become customary law, and that in addition, the RTD deals with rights recognised in international conventions, that are legally binding.¹⁴² Finally, there are two other international instruments that, although not legally binding, nevertheless have relevance particularly in influencing the role of MNCs in helping to enforce (indirectly) the RTD. The first instrument is the *UN Global Compact*,¹⁴³ which seeks to regulate the business practices of transnational corporations as well as to promote principles that could be incorporated into company policy in human rights, labour, the environment, and anti-corruption. The Global Compact is not a regulatory instrument, but instead relies on public accountability, transparency, labour and civil society. The second instrument is the *UN Norms on Corporate Responsibility*, developed by the working group of the UN Sub-commission on the promotion and protection of human rights, and adopted by the Sub-commission in August 2003.¹⁴⁴ The Norms recognise that although states are primarily responsible for protecting human rights, MNCs are also responsible for promoting the principles as set out in the Universal Declaration on Human Rights, and several other treaties dealing with civil and political, economic social and cultural rights.¹⁴⁵ The Norms are not legally binding, but many of the substantive provisions on human rights contained in the Norms do make use

¹⁴² *Fifth Report of the Independent Expert on the Right to Development*, Economic and Social Council, E/CN4/2002/WG18/6/Add1, 31 December 2002, paras 13–14.

¹⁴³ See <http://www.unglobalcompact.org/Portal/Default.asp>, accessed March 2005.

¹⁴⁴ The Norms deal with the right to equal opportunities and non-discriminatory treatment, the right to personal security, respect for national sovereignty and human rights, rights of workers, consumer protection obligations, environmental protection obligations, and general provisions for the application of the Norms by transnational corporations.

¹⁴⁵ Commission on Human Rights, Sub-commission on the Promotion and Protection of Human Rights. Session 55.D Workers Rights, 4 August 2003.

of existing provisions in international law, the Norms now applying these provisions to private enterprises.¹⁴⁶

10.5.1.3 Obligations at the domestic (target state) level

As obligations on economic law can be imposed on states at the international level to comply with certain treaties, such as the TRIPS, so too can similar obligations be imposed at the domestic level, and specifically on the target state. For example, the TRIPS sets out specific requirements for domestic legislation in the protection of IPRs and such obligations when coupled with IPR provisions in certain bilateral or Free Trade Agreements (FTAs) can create TRIPS-plus provisions that will also apply at the domestic level.¹⁴⁷ As a consequence of signing such agreements, the target state, usually a DC or LDC, will then find its hands tied in terms of having effective control over its own domestic regulatory agenda on say foreign investment, competition, IPRS, and labour standards. As such, the target state will need to balance any local measures introduced to generate increased spillover through technology transfer (for example through the imposition of performance requirements¹⁴⁸), IPR legislation and competition law to check possible MNC IPR exploitation with its obligations under bilateral/investment/FTA agreements. Generating effective spillover in the local target market is crucial for DC and LDC innovation and growth. The actual diffusion of technology into the local market (spillover) is as important as the technology transfer itself (see Chapter 8).

There is also the related issue of *absorption*. It is one thing to create policy incentives to encourage MNCs in generating spillover, but quite another for developing country producers to use bare, documented technological information, which is dependent on the absorption capacity of the producers. As mentioned earlier, development is regarded as ‘a process of economic growth, with expanding output and employment, institutional transformation and technological progress of a country that steadily improves the well-being of the people’.¹⁴⁹ It is this concept of linking the RTD with a *process* of development and as a process of economic growth, which depends to an increasing extent on technological processes, that will help deliver access to adequate food, health, education, cultural life and scientific progress. The ICESR, a legally binding international treaty, sets out specific rights in this regard with the right

¹⁴⁶ Ibid.

¹⁴⁷ The specific domestic provisions of TRIPS, bilateral trade agreement/investment agreement, and FTAs are discussed more fully in Chapter 9 of this book.

¹⁴⁸ For example on local employee training, sharing of know-how etc.

¹⁴⁹ Consideration of the Sixth Report of the Independent Expert on the Right to Development, E/CN.4/2004/WG.18/2, February 2004, p. 4.

to an adequate standard of living including adequate food,¹⁵⁰ the right to the enjoyment of the highest attainable standard of physical and mental health,¹⁵¹ the right to education,¹⁵² and the right to take part in cultural life and to enjoy the benefits of scientific progress,¹⁵³ all of which can be delivered through technological processes. The author does not argue that access to effective technology is the only way to achieve such rights, but it is becoming an increasingly significant way given the costs involved. For example, and as mentioned earlier in this chapter and cited again here, the Human Rights Commission working group on the RTD has specifically stated that:

Availability of resources – material and human – and access to technology have always been recognized as the forces that drive and sustain the development process. Indeed, access to appropriate technology has often been the more critical input in undertaking development. It has not only been a substitute for other inputs, but has also provided the quantum jumps in attaining outcomes perceived, at some point in time, as being unattainable.¹⁵⁴

To what extent then is the target state under an obligation to implement the economic and social rights mentioned above, and can any legal relationship be found between the RTD and economic and technological indicators? This question is addressed in the next section.

10.5.1.4 The legal obligation

Article 2(1) ICESCR sets out the legal obligation:

Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realisation of the rights recognised in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.

Commentators have questioned whether Article 2(1) gives rise to obligations that are immediately justiciable, and although there has been controversy on the subject, it does appear that the Article does give rise to obligations on States with immediate legal effect.¹⁵⁵ And so under Principle 21 of the Limburg Principles (which provide guidelines on the implementation of the ICESCR Covenant):

¹⁵⁰ Article 11 ICESCR.

¹⁵¹ Article 12 ICESCR.

¹⁵² Article 13 ICESCR.

¹⁵³ Article 15 ICESCR.

¹⁵⁴ Consideration of the Sixth Report of the Independent Expert on the Right to Development, E/CN4/2004/WG18/2, February 2004, p. 10.

¹⁵⁵ Rehman, J., *International Human Rights Law A Practical Approach*, Longman, 2003, p. 107.

The obligation ‘to achieve progressively the full realisation of the rights’ requires State parties to move as expeditiously as possible towards the realisation of the rights. Under no circumstances shall this be interpreted as implying for States the right to defer indefinitely efforts to ensure full realisation. On the contrary all State parties have the obligation to begin immediately to take steps to fulfil their obligations under the [ICESCR]¹⁵⁶ Covenant.¹⁵⁷

Similarly Principle 17 of the Limburg Principles states that:

At the national level States parties shall use all appropriate means, including legislative, administrative, judicial, economic, social and educational measures, consistent with the nature of the rights in order to fulfill their obligations under the Covenant.

Note however that although the obligations under Article 2(1) have immediate effect, both the Article and the Limburg Principles also specify that the state can ‘take steps’ to realise the rights set out in the ICESCR. Notwithstanding this, however, clear obligations arise. For example, in implementing Article 14 ICESCR on access to free primary education, countries who have ratified may be required to collect data regularly concerning realisation of goals, make periodic reports and allow its citizens to complain to the monitoring body about failure to implement. Furthermore Article 8(1) Declaration also sets out obligations on the state:

States should undertake, at the national level, all necessary measures for the realization of the right to development and shall ensure, inter alia, equality of opportunity for all in their access to basic resources, education, health services, food, housing, employment and the fair distribution of income. Effective measures should be undertaken to ensure that women have an active role in the development process. Appropriate economic and social reforms should be carried out with a view to eradicating all social injustices.

We can see here as well the reference to an *economic* solution for implementation of measures at the national level to realise the RTD. The author suggests that one possible interpretation of an ‘economic solution’ would be to put in place an effective domestic legislative framework in DCs and LDCs for intellectual property and competition law that would facilitate beneficial technology transfer and specifically the technological processes required to help deliver adequate access to food, health, education, the right to enjoy a cultural life, share in scientific progress, and provide the means of freedom of expression,

¹⁵⁶ [ICESCR] inserted for clarity.

¹⁵⁷ Principle 21, *The Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights*, UN ECCOR. Res. Commission on Human Rights, 43rd Sess., Agenda Item 8, UN Doc E/CN4/1987/17Annex (1987).

all of which form part of the composite RTD. This freedom to choose domestic policy will of course depend on the web of bilateral and FTA agreements that the country may have signed up to, as discussed in Chapter 9. In Chapter 9, the argument was made that developed (mainly OECD) countries will need to review their current trade laws, particularly as regards IPR trade provisions, to allow DCs and LDCs greater freedom to develop their own IPR regimes and that will help to facilitate local innovation and production.

There are also other considerable hurdles to jump. As the Commission on Intellectual Property states:

Since many technologies of interest to developing countries are produced by organisations from developed countries, the acquisition of technology requires the ability to negotiate effectively based on an understanding of the particular area of technology. This process requires a determined approach on the part of the recipient of technology to acquire the necessary human capital and the appropriate institutions.¹⁵⁸

We see here the relevance of the use of appropriate technology and the Human Development and Alternative Development paradigms mentioned earlier in Section 10.3 above. We also see the need to enforce the right to education to help develop the human capital base. Chapter 2 reviewed research indicating a relationship between civil and political, economic, social and cultural rights with the Digital Divide. Clearly there are considerable costs in doing this and we should bear in mind that low-income countries, with over 40% of the world's population, account for less than 3% of world trade, with developed countries exporting around \$6,000 per capita and developing countries around \$330 per capita, with the lowest income countries exporting less than \$100.¹⁵⁹ In helping to tackle this problem, the Independent Expert has proposed an idea for an *RTD-Development Compact* (RTD-DC), which would form the basis of financial aid from the international community, but would also recognise the reciprocal obligations of both developed and developing countries. The author has already discussed the RTD-DC with respect to the US MCA above, but discusses the RTD-DC in more detail below (Section 10.6).

Obligations at the domestic level, however, would not just apply to DCs and LDCs in attempting to attract technology transfer. The author also argues that generating real technology *spillover* will require incentivising the international business community to invest in technology transfer to the target state. How this can be achieved is discussed in the next section.

¹⁵⁸ CIPR report, chapter 1, 'Intellectual Property and Development', 2002 at http://www.iprcommission.org/papers/text/final_report/chapter1.htmf, accessed February 2005, p. 15.

¹⁵⁹ *Finding a Way forward in the Doha Development Round: Key Issues for LDC Trade*, LDC Ministerial Meeting Dakar, 4–5 May 2004, Oxfam International, p. 1.

10.5.1.5 Right to development tax relief

To incentivise the international business (MNC) community to transfer beneficial technology to producers in the developing world, the author puts forward a suggestion for introducing a *Right to Development Tax Relief* ('RTD Tax Relief') that will operate in investor states and be administered jointly through the investor state's international development department and/or tax revenue department, and that will apply to any nationally registered MNC under relevant Company Act legislation in the investor state. In proposing such a relief, the author is aware of the question as to why tax payers in developed countries should subsidise the enrichment of their MNCs in order to aid producers in the developing world. The question is important and brings in the concept of distributive justice as discussed by Rawls and Franck (see Section 10.7). The Commission on Intellectual Property has already suggested the idea of a tax relief and the author is building on this suggestion in clarifying a little further on how such a relief might work. The philosophers will no doubt debate whether the tax relief is correct from a moral viewpoint. However, the legal question of how to enforce Article 66.2 TRIPS remains. The author suggests that with such little progress being made on implementation of Article 66.2, one solution could be the RTD Tax Relief.

The author argues that to qualify for the RTD Tax Relief, the MNC will need to satisfy a minimum set of *Technology Transfer Criteria* (the 'Criteria'), which the author suggests could be established by the WTO's Working Group on Trade and Transfer of Technology (WGTT), such criteria to be annexed to the investor state's implementing legislation for RTD Tax Relief. Under this proposed scheme, MNCs will notify their technology transfer agreements to the relevant investor state's development department and/or tax revenue department.¹⁶⁰ The author also suggests a *sliding scale* of tax relief: greater relief provided for MNCs licensing into LDCs, with less relief available for licensing into DCs.¹⁶¹

¹⁶⁰ Both the development and tax revenue departments of the investor state could have *concurrent jurisdiction* (for example as compared to similar provisions on concurrency to be found in national competition law frameworks, such as the United Kingdom's *Competition Act 1998*, allowing for both a sector-specific national regulatory authority and a separate competition authority to hear competition complaints) to call for and examine such agreements. The power to do so will be set out in the implementing legislation bringing the RTD Tax Relief into force in the relevant investor state's jurisdiction.

¹⁶¹ There may be issues of *State Aid* linked to the implementation of the RTD Tax Relief which will need to be examined, for example in Europe, under Community competition rules on State Aid found in Articles 87 and 88 EC Treaty and relevant case law specifically defining the meaning of aid in terms of its effect, for example preferential tax treatment (Case 173/73 *Commission v. Italy* [1974] ECR 709) and the application of the 'market economy investor principle' as set out in Case C-39/94 *Syndicat*

The appropriate scale for tax relief set by national (donor) governments, the author suggests, could be established by the WGTT following a separate set of *Indicators*.¹⁶² In assessing the value of the relief to be given, consideration

Français de l'Express International (SFEI) v. La Poste [1996] ECR I-2547; Cases C-278-280/92 *Spain v. Commission* [1994] ECR I-4103. The market economy investor principle asks whether the State is acting in a way that a private investor would in a market economy in providing loans or capital on similar terms to that of a private investor. Would a private investor invest in the same way? If so, the State may not be using public funds for State Aid under Article 87(1) EC Treaty. There may also be issues of state subsidies at the multilateral level given that the WTO has certain rules (Subsidy Rules under the *WTO Agreement on Subsidies and Countervailing Measures*) on states offering support to private industry. The analysis of state Aid/WTO subsidy rules is outside the scope of this book.

¹⁶² Alternatively, the CIPR suggests that the TRIPS Council should consider introducing *criteria* (note, not the term 'Criteria' used in the text above to indicate terms in a technology transfer agreement) to decide the basis on which LDCs should enforce the TRIPS obligations after 2016. Such criteria could include indicators of economic development and scientific and technological capability as reflected in Article 66.1 TRIPS Agreement on the need for flexibility to create a viable technological base. See CIPR on *Intellectual Property and Development*, Chapter 8, 'The International Architecture', 2002 at http://www.iprcommission.org/papers/text/final_report/chapter8.htmf, accessed February 2005, p. 8. In making this recommendation, the CIPR refers to a study completed by Lall, S. and Albaladejo, A., 'Indicators of the Relative Importance of IPRs in Developing Countries', UNCTAD/ICTSD, Geneva 2001 at: <http://www.ictsd.org/unctad-icstd/docs/Lall2001.pdf>, which sets out various measures of scientific and technical capability in developing countries. I can see no reason why a similar set of indicators of scientific and technical capability (the 'Indicators') could not be used to set a *sliding scale of tax relief* providing the greatest relief to those MNCs investing in developing countries with very low indicators, and gradually reducing the tax relief depending on rising Indicators. Alternatively, the WSIS suggests in its Tunis Agenda (discussed in Chapter 7), an *ICT Opportunity Index* and an *Digital Opportunity Index* based on the work of the *Partnership on Measuring ICT for Development*. In Chapter 9 (Bilateralism), the author suggests that any Indicators developed by the TRIPS Council could also be used as the basis for providing *exceptions* or *exemptions* to developed country national law on the negotiation of intellectual property rights and trade, for example in the *US Trade Act 2002*. For example, in the case of the United States, the Indicators could be set out in a schedule or annex to the Act, which would allow the USTR to provide exceptions or exemptions to any DC or LDC in accordance with the Indicators. Such a provision could then become a template model for any developed country with similar trade-related intellectual property rights legislation in force. Please note that the Indicators suggested here are not the same as the Criteria suggested in the text above. The Criteria include a minimum set of legal terms on technology transfer, approved by the WTO's Working Group on Trade and Transfer of Technology, that would form the basis of whether an MNC that included such terms in its technology transfer agreements with developing country producers/states would qualify for tax relief or not. It is a *legal test*, which if satisfied would qualify the MNC for tax relief. The Indicators suggested above would then determine the *scale* of that tax relief: a higher Indicator leading to lower tax relief and vice-versa. The Indicators therefore would form more of an economic *means-based* test.

could also be given to the rating of the developing country with respect to how that country measures on the *ICT Opportunity Index* and/or *Digital Opportunity Index* as suggested by the WSIS in its Tunis Agenda for example (discussed in Chapter 7). As mentioned in Section 1.2 (Limitations) in this book, any tax relief offered by a developed (donor) country to its MNCs as an incentive to offer beneficial technology transfer to developing countries will need to comply (in Europe) with EC rules on State Aid and also with the WTO's Subsidies Agreement.¹⁶³ So, for example, under the WTO Subsidies Agreement, subsidies contingent upon the export of goods are prohibited, whereas services are allowed. Here then we see an obvious restriction on how the RTD Tax Relief could operate, namely that any technology transferred by MNCs to developing countries must be in the form of *services* only, for example technical know-how or consultancy services, and not in the form of goods (unless the rules were changed or agreed upon as a form of special and differential rights for DCs and LDCs, although this is unlikely). For DCs and LDCs, therefore, future trade round negotiations under Article XV of GATS relating to subsidies must not stop the use of subsidies or tax reliefs to encourage the transfer of technology to developing countries.¹⁶⁴ Why the WGTT as an organ of the WTO should become involved in establishing guidelines for the RTD Tax Relief is discussed below in Section 10.5.1.5.

As mentioned, the RTD Tax Relief is to incentivise the international MNC community to transfer beneficial technology to producers in the developing world. The significance of encouraging beneficial technology transfer becomes more apparent if it can be directly linked to an improvement in development. We saw in Chapter 8 that MNCs are reluctant to transfer technology through licensing arrangements if the host state's IPR framework is weak, preferring instead the more protective form of transfer in the form of FDI (commercial presence). Establishing commercial presence will of course raise the costs for MNCs and much will depend on the business case for establishing a subsidiary in the host state. We have also seen how transfer of technology can aid development (Section 9.3 *ICTs and Development*). Clearly technology has a role to play in helping to implement the MDGs. By reviewing the obligations on States at both an international and domestic level, and looking at possible *technological processes* of development we have sought to establish a link between technology transfer (FDI) and the RTD at a broad *policy* level. The question then is whether a link can be established at a more formal *economic* level?

¹⁶³ See note 161. WTO Agreement on Subsidies and Countervailing measures.

¹⁶⁴ Correa, C., 'Can the TRIPS Agreement Foster Technology Transfer to Developing Countries?' in *International Public Goods and Transfer of Technology: Under a Globalized Intellectual Property Regime*, (eds Maskus, K., and Reichman, J.) Cambridge University Press, 2005, p. 253.

10.5.1.6 Linking the RTD with economic growth (GDP) and FDI

Linking FDI with the RTD is significant as both, to some extent, are also linked with economic growth as defined by Gross Domestic Product (GDP). The presumption is that by increasing FDI into a country, there would be a corresponding effect on GDP, which in turn would impact the RTD. We have already reviewed research establishing a relationship between civil and political, economic, cultural and social rights and the Digital Divide (Chapter 2). In this chapter, the author has sought to establish the UN Right to Development as a composite human right covering all the civil and political, economic, cultural and social rights, and in so doing, linking the RTD with the Digital Divide. Clearly this is an assumption, as the RTD has not been universally accepted as a human right (for example by the United States), and as discussed earlier. However, working on the assumption that the RTD can be classed as a composite right, the question then arises as to whether we can establish a relationship between FDI (technology transfer) and the RTD and the Digital Divide. Also important is to find other indicators of economic growth that the RTD might be linked with. In this way, it then becomes possible to find ways of measuring the RTD against economic growth, and therefore to find ways of enforcing the RTD through IEL, such as telecommunications, international trade, competition, IP and technology transfer, as all these sectors of law are well recognised in promoting economic growth and addressing the Digital Divide (Chapter 2).

Business partnerships are a major source of technology transfer including, FDI, Build Operate Transfer (BOT) agreements, subcontracting, licensing and franchising. There has been much discussion of FDI in recent years. For example, UNCTAD's *World Investment Report* (2004) focuses on the shift to services in world trade and the role that FDI will play in that shift. The 2005 report shows the increasing presence of TNCs and the internationalisation of R&D. According to the 2004 report, although global inflows of FDI declined in 2003 for the third year in a row, the prospects for FDI look set to improve, particularly in Asia, and in developing countries, which experienced a growth of 9% in 2003 rising to \$172 billion overall.¹⁶⁵ Prospects during 2004 did in fact improve with the 2005 report indicating a modest rise of 2% of FDI inflows in 2003. In terms of law, there were 244 changes in laws and regulations affecting FDI in 2003, 220 of which involved further liberalisation.¹⁶⁶ In 2004, this increased by a further 271 new measures.¹⁶⁷

As we saw in Chapter 8, FDI can be defined as the act of establishing or

¹⁶⁵ UNCTAD, *World Investment Report*, 2004.

¹⁶⁶ *Ibid*, overview section.

¹⁶⁷ UNCTAD, *World Investment Report*, 2005, p. 22.

acquiring a foreign subsidiary (foreign affiliate) over which the investing firm (parent) has substantial management control.¹⁶⁸ This is quite a narrow definition for FDI. In a report for the Asian Development Bank (ADB) surveying the technology spillovers from FDI,¹⁶⁹ Fan, an ADB economist, suggests a broader approach:

FDI can potentially benefit domestic firms. The benefits arise from foreign firms demonstrating new technologies, providing technological assistance to their local suppliers and customers, and training workers who may subsequently move to local firms. Local firms can also learn by watching. Moreover, the very presence of foreign-owned firms in an economy increases competition in the domestic market. The competitive pressure may spur local firms to operate more efficiently and introduce new technologies earlier than would otherwise have been the case. Because foreign firms are not able to extract the full value of these gains, this effect is commonly referred to as the spillover effect.¹⁷⁰

There are of course many negative effects of FDI including for example the *crowding out* of local businesses as a result of foreign entry. Dine discusses a number of negative consequences, including a study by Borenszstein, De Gregorio and Lee showing that FDI only benefits countries that have average male schooling above one year of secondary education. Below that FDI has a negative effect.¹⁷¹ Furthermore, in many low-income countries, FDI is not sought for technology transfer but for the employment of low-skilled workers (mostly in low-technology manufacturing activities) and for foreign exchange.¹⁷² In some cases, the need to attract FDI may result in the lowering of regulations relating to health and employment in the target state, particularly in dedicated 'Export Zones', where in the manufacturing sector materials may be imported by FDI firms, assembled and then exported with little or no use being made of local inputs other than labour. As Dine argues, 'If this is coupled with the tax concessions given to the companies to locate their plants in the country it can be seen that the development benefits from this strategy are negligible'.¹⁷³

¹⁶⁸ Maskus, K., 'The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer', 9 *Duke Journal of Comparative and International Law* (109), 1998, p. 7.

¹⁶⁹ Fan, E.X., 'Technology Spillovers from Foreign Direct Investment – A Survey', Asian Development Bank, ERD Working Paper No. 33, December 2002, p. 7. Fan cites the economist Kokko in Kokko A., 'Technology, Market Characteristics, and Spillovers', *Journal of Development Economics*, 43, 1994, pp. 279–93.

¹⁷⁰ *Ibid.*

¹⁷¹ See Dine, J., *Companies, International Trade and Human Rights*, Cambridge University Press, 2005, p. 24.

¹⁷² *Ibid.*

¹⁷³ *Ibid.*

As we saw in Chapter 8, firms that engage in FDI and operate in more than one country can be classed as MNCs. MNCs can transfer technology in a number of ways as described above, but two main ways are either through FDI via a foreign subsidiary or through external licensing with a third party in the target state. MNC can achieve tighter control over the technology transfer process by using FDI, particularly when the target state's legislative framework for the protection of IPRs is weak. Although UNCTAD's 2004 report paints a favourable picture as regards FDI in-flow into developing countries, only a select group of DCs are actually receiving this investment; the majority lose out. In the last ten years, although global FDI figures have increased by almost a factor of five, only 0.5% of global FDI flows have been invested in 49 LDCs.¹⁷⁴ Furthermore, it is anticipated that the decentralization of R&D activity by MNCs will likely continue to be focused on a small number of DCs. For example in 2003, the top ten recipients for FDI in Asia were headed by China, Hong Kong (China), Singapore, India and the Republic of Korea, in that order.¹⁷⁵ However, as mentioned above, it is not entirely clear to what extent FDI also contributes to actual technology spillover and absorption into local target markets. Fan suggests a more cautionary approach:

Until now, policy frameworks in most developing countries have tended to focus predominantly on attracting FDI, particularly in high-technology areas. Policy initiatives have largely bypassed measures to specifically enhance the spillover benefits from FDI. There are now a large number of empirical studies that suggest it is difficult for domestic firms to extract the potential benefits of spillovers when a large technology gap exists between domestic and FDI firms. FDI policy should thus be placed in a broader economic policy context in order for the host economies to maximize the benefit they derive from FDI inflow. Government policy can play a role by investing in growth theory. More rigorous theoretical work is needed to explore the relationship between FDI and spillovers, FDI and domestic firms, and the role of FDI in promoting growth.¹⁷⁶

Fan makes a reference to growth theory. The relationship between FDI and GDP described above illustrates a certain kind of thinking in economics known as 'New Growth Theory' (NGT), which takes as its central focus the growth of technological knowledge and its diffusion and absorption. NGT views innovation and imitation efforts that respond to economic incentives as major engines of growth. Generally, growth theory falls into three broad categories: (1) *post-Keynesian* growth models, which emphasise the role of savings and investment in promoting growth; (2) *neo-classical* models, which emphasise technical progress; and (3) *new growth* models which emphasise

¹⁷⁴ IP/C/W/398 at p. 4.

¹⁷⁵ Ibid, p. 50.

¹⁷⁶ Fan, *supra* note 169, p. 26–7.

the role of R&D, human capital accumulation and externalities.¹⁷⁷ Under the NGT model, the social rate of return to investment must exceed the private rate of return (Balasubramanyam et al., 1996). In addition, under NGT, knowledge spillover contributes to growth in the aggregate.

In their paper linking FDI with growth, Balasubramanyam et al., argue that FDI has long been recognised as a major source of technology and know-how to developing countries, but that technical progress accounts for a low proportion of the growth experienced by most developing countries because of the lack of human capital.¹⁷⁸ They also argue that although NGT provides powerful support for the view that FDI could be a potent factor in promoting growth, the absence of a favourable economic climate could result in FDI becoming counter-productive, in that FDI can actually ‘thwart rather than promote growth’ and may ‘enhance the private rate of return to investment by foreign firms while exerting little impact on social rates of return in the recipient economy’.¹⁷⁹ UNCTAD’s *Trade and Development Report* (2005) also warns that despite some developing countries, such as China, that have been granting ever-increasing preferential treatment to foreign ventures that include the transfer of advanced technologies:

... there are indications of difficulties in acquiring the needed technological know-how through this channel. It is well known that such spillover is limited due to the prevalence of ‘technology mercantilism’ of foreign ventures whereby TNCs seek to retain control over their technologies.¹⁸⁰

In response, China has repositioned its strategy to include the purchase of key hardware, products and know-how. Clearly the jury is still out on FDI and its significance to local spillover. The WTO’s RTA *transparency mechanism* mentioned in Chapters 8 and 9 envisages greater information being made available on FDI with the need for potential RTA parties to notify in advance under the terms of the Annex to the WTO RTA decision, but more information is required. Notwithstanding Fan’s and Balasubramanyam’s cautionary comments on FDI, it is perhaps at this stage that we should ask: what exactly is the economic relationship between the RTD and GDP, and between GDP and FDI? And therefore is it possible to establish a relationship between FDI and the RTD? If the latter is possible, then could we find a way of achieving/enforcing the RTD through FDI and help address the Digital Divide?

¹⁷⁷ Balasubramanyam, V.N., Salisu, M., and Sapsford, D., ‘Foreign Direct Investment and Growth in EP and IS Countries’, *The Economic Journal*, 106(434), (January 1996), pp. 92–105, at p. 94.

¹⁷⁸ Ibid.

¹⁷⁹ Ibid.

¹⁸⁰ UNCTAD, *Trade and Development Report*, 2005, p. 38.

10.5.1.7 Equation 5, the link between FDI, GDP and the RTD

Sengupta has suggested a symbolic (economic) approach that links the RTD with GDP.¹⁸¹ As background, he explains that the realisation of many of the interdependent human rights depends on the sufficient availability of goods and services, and that such availability is constrained by a country's resources, represented to some extent by GDP. Furthermore he argues that

access to the relevant goods and services would depend on public policies, including public expenditure which cannot expand indefinitely without an increase in public revenue; this in turn, would be related to growth of the country's GDP. A process of development in which all rights are realised together would, therefore, include growth of GDP as an element that would relax the country's resource constraints.¹⁸²

How then can we link the well-understood and documented ways of *growing* GDP by way of investment (both domestic and foreign) with the RTD?

Marks, reviewing Sengupta's *symbolic* theory linking the RTD with GDP,¹⁸³ where Sengupta describes the RTD as a *vector*, shows it symbolically as:

$$R_D = (g, R_1, R_2, \dots, R_n) \quad (10.1)$$

Where R_D is the right to development, which consists in an undefined relationship between growth in domestic product (g) and the realisation of ' n ' human rights.

In their paper analysing the relationship between trade strategy, FDI and growth in developing countries in the context of New Growth Theory,¹⁸⁴ economists Balasubramanyam et al.¹⁸⁵ prove a hypothesis put forward by the economist Jagdish Bhagwati that the volume and efficacy of incoming FDI will vary according to whether a country is following the export-promoting (EP) or the import substituting strategy (IS).¹⁸⁶ Balasubramanyam et al. prove Bhagwati's hypothesis, using the formula:

¹⁸¹ Sengupta, A., 'Fifth Report of the Independent Expert on the Right to Development', Economic and Social Council, Commission on Human Rights, open-ended working group on the right to development, E/CN4/2002/WG18/6, Geneva, September 2002, p. 5.

¹⁸² Ibid, para 7.

¹⁸³ Marks, S., 'The Human Rights Framework for Development: Five Approaches', Harvard School of Public Health, 2001, p. 9.

¹⁸⁴ Discussed above at Section 10.5.1.2.

¹⁸⁵ Balasubramanyam, et al., *supra* note 177.

¹⁸⁶ Ibid, pp. 92–3. They define EP as a strategy which equates the average effective exchange rate on exports to the average effective exchange rate on imports, which results in trade being neutral and bias free. In contrast, an IS strategy is one where the effective exchange rate on imports exceeds the effective exchange rate on exports and is biased in favour of import-substitution activities.

$$Y = g(L, K, F, X, t), \quad (10.2)$$

where: Y = gross domestic product (GDP),

L = Labour input,

K = domestic capital stock,

F = stock of foreign capital,

X = exports,

t = a time trend, capturing the technical progress. The term ‘ g ’ expresses that Y (GDP) is a function (more precisely, a production function) of the variables on the right-hand side of the equation. Note (somewhat confusingly) that this is *not* the ‘ g ’ used in Equation 10.1 to show the growth rate of GDP.

They then difference Equation 10.2 above (measure the rate of change of the variables with respect to time ‘ t ’) giving:¹⁸⁷

$$y = \alpha + \beta l + \gamma k + \psi f + \theta x, \quad (10.3)^{188}$$

where the lower-case letters denote the *rate of growth* (in terms of time t) of the individual variables set out in Equation 10.2 (so for example ‘ l ’ shows the growth rate of labour input and ‘ x ’ is the growth rate of exports). The parameters β , γ , ψ , ϕ are output elasticities of labour, domestic capital, foreign capital and exports respectively, and y is the rate of growth of GDP at time t .

Because of the well-known difficulties of accurately measuring capital stock (domestic and foreign capital), they approximate instead the rate of growth of the capital stock by the share of the respective domestic and foreign capital stocks in GDP. Balasubramanyam et al., do this by replacing the rates of change in domestic and foreign capital inputs by the share of domestic investment and foreign direct investment in GDP (so $k = I/Y$ and $f = FDI/Y$), where I is domestic investment, FDI is foreign direct investment and Y is GDP. This then yields the following equation:

$$y = \alpha + \beta l + \gamma (I/Y) + \psi (FDI/Y) + \theta x \quad (10.4)$$

¹⁸⁷ They also make the assumption that Equation 10.2 is linear in logs. In the context of economics, ‘log’ usually means ‘natural log’, that is \log_e , where e is the natural constant that is approximately 2.718281828. So $x = \log y \iff e^x = y$.

¹⁸⁸ This formula has also been tested in another study entitled ‘The Impact of Foreign Direct Investment on Labour Productivity in the Chinese Electronics Industry’ by Liu, X., Parker, D., Vaiyda, K., and Wei, Y., Lancaster University Management School Working Paper 2000/002, where the authors were looking for the evidence that FDI in the Chinese electronics industry was associated with higher local productivity. The results confirmed this hypothesis.

Balasubramanyam et al., therefore arrive at Equation (10.4), linking the rate of change of growth (GDP) given by the symbol ‘y’ on the left-hand of the equation with the variable for FDI on the right. With the aim of establishing a relationship between the RTD (R_D) and FDI, the author now makes use of Equation 10.4 by substituting the term for ‘y’ in Equation 10.4 (rate of growth of GDP) for g ¹⁸⁹ in Equation 10.1 (which links the RTD with the rate of growth of GDP), giving:

$$R_D = ([\alpha + \beta l + \gamma (I/Y) + \psi (FDI/Y) + \theta x], R_1, R_2, \dots, R_n) \quad (10.5)$$

Equation 10.5 now shows in a purely *symbolic* way the potential relationship between the RTD expressed by the symbol R_D with foreign direct investment (FDI).¹⁹⁰ It also shows the potential relationship between the RTD on the one hand, and domestic investment, domestic labour productivity and the growth rate of exports on the other.¹⁹¹

The significance of the symbolic Equation 10.5 is in linking the RTD with economic factors promoting growth (GDP), such as FDI, labour and the growth in exports. All of these factors can be measured and enforced through domestic economic law in the target state. Equation 10.5 does not specify the *type* of FDI used as a variable in the equation. For the purposes of measuring the Digital Divide, we would be interested in FDI as a form of beneficial technology transfer. Neither does Equation 10.5 specify how the variable R_D (Right To Development) is to be *measured*. R_D is a composite right including both civil and political rights and ESCR. We saw however in Section 10.5.1.5 when discussing the RTD Tax Relief that various measures could be used in setting the value of the RTD Tax Relief including: (i) a set of *Indicators* of the type measured by Lall and Albaladejo which sets out various measures of scientific and technical capability in developing countries;¹⁹² and/or (ii) as the WSIS

¹⁸⁹ Note that this is not the same term ‘g’ used in Equation 10.2 to represent the production function.

¹⁹⁰ This equation in no way represents a statistical/mathematically defined relationship between the RTD and the variables on the right-hand side of the equation, but seeks to demonstrate symbolically that such a relationship might exist. Equation 10.5 *extends* the Independent Expert’s own symbolic vector representing the RTD, set out in Equation 10.1 (as described by Marks) by making the link with FDI, and indirectly with technology transfer as a component of FDI. Clearly more empirical research is required to test the equation and to find an appropriate statistically defined relationship.

¹⁹¹ Measurements for which, the author argues, can be made, and variables which can be enforced in domestic frameworks of economic law.

¹⁹² *Indicators of the Relative Importance of IPRs in Developing Countries*, UNCTAD/ICTSD, Geneva 2001 at: <http://www.ictsd.org/unctad-icstd/docs/Lall2001.pdf>, accessed December 2005.

suggests in its Tunis Agenda (discussed earlier in Section 7.6), an *ICT Opportunity Index* and a *Digital Opportunity Index*.¹⁹³ It should be stressed that in using such ‘technological’ measurements for the variable R_D we are viewing the interpretation of the RTD in terms of technology alone, which might be appropriate if our study is the Digital Divide. But the RTD is more than just a measure for technological development. The RTD is a composite of civil and political rights and ESCR. Other measurements taking into account the level of development as regards health, education, water, decent housing, freedom of expression, access to justice and so on, will also be relevant. Another indicator of the RTD could be indicators of poverty. Given that poverty is a violation of human rights, indicators of poverty reduction may be indicative of the level of realisation of the RTD. Clearly this is an area for further research, but is outside the scope of this book. The value in Equation 10.5 however is to show what *can* or needs to be measured. In examining FDI, specifically technology transfer *processes* and their relationship to spillover in the target market, requires further analysis. Assuming that such research, for example in large magnets for FDI like China and India, will be forthcoming, the question then remains as to how DCs and LDCs can be assisted in achieving Equation 10.5, in growing GDP, and how the developed countries can help. By DCs and LDCs enforcing civil and political rights, and ESCR at home, thereby enforcing the RTD as a composite right, the Digital Divide can help to be addressed. The author argues that growing GDP and FDI will help to strengthen the RTD, but only if such economic growth is achieved with equity and justice (and that each of the separate human rights are not negatively impacted). This, in part, can be through the RTD-Development Compact, proposed by the then Independent Expert (Sengupta), and discussed in the next section.

10.6 THE RTD DEVELOPMENT COMPACT

The RTD-Development Compact (RTD-DC) is a mechanism for implementing the RTD. It is the mechanism, as put forward by the Independent Expert, by which DCs and LDCs enter into a ‘development compact’ with the international community to seek assistance and cooperation in meeting its development

¹⁹³ Based on the work of the *The Partnership on Measuring ICT for Development* which aims to set standards and to harmonise ICT statistics at the global level. It has worked to develop a core list of ICT indicators from all countries that will serve as a database on comparable statistics on the information society. See website at: <http://www.itu.int/ITU-D/ict/partnership/>, accessed December 2005.

goals.¹⁹⁴ As the Commission on Human Rights working group on the RTD made clear in 2004,¹⁹⁵

the logic of a development compact rests on the acceptance by and a legal commitment of the international community to pursue, individually and collectively, the universal realization of all human rights and, on their part, for the developing countries to follow explicitly a development strategy geared towards the universal realization of human rights.¹⁹⁶

The RTD-DC is based on a framework of *mutual commitment* or *reciprocal obligations* between the target state and the [investing] international community to ‘recognise, promote and protect the universal realisation of all human rights’.¹⁹⁷

As the HR Working Group on the RTD makes clear, three essential elements are required to bring a RTD-DC to life: (1) a programme of development which targets state civil society, donor institutions and other countries are consulted on, and which specifies policies and sequential measures to be adopted in order to realise the RTD; (2) a programme which specifies the responsibilities of donors and multilateral agencies, detailing their Official Development Assistance (ODA) budget; and (3) an effective monitoring system. Sengupta (the then Independent Expert) argues that to finance the RTD-DC, the international community will need to honour existing ODA commitments of 0.7% of their GNP to go into a ‘callable fund’,¹⁹⁸ which

¹⁹⁴ Sengupta bases his RTD-DC on the Norwegian minister Stoltenberg’s development contracts, originally conceived to assist the IMF in resolving the problems of the arrears of defaulting countries. See ‘Fourth Report of the Independent Expert on the Right To Development’, Mr Arjun Sengupta, Submitted in Accordance with the Commission Resolution 2001/9, UN Doc E/CN4/2002/WG18/2, 2001.

¹⁹⁵ E/CN4/2004/WG18/2, p. 19.

¹⁹⁶ Ibid, para 36.

¹⁹⁷ Ibid.

¹⁹⁸ The Commission on Human Rights open-ended Working Group on the RTD points out that in 1970 at the UN General Assembly, although the international community pledged 0.7% of GNP for ODA to developing countries and 0.15% to 0.2% of their GNP to the LDCs, ‘only a handful of countries have come anywhere near to meeting this target’. In 2003, the ODA from industrial countries amounted to only \$56 billion per year, about 0.2% of their GNP. At the Millennium Summit, the Heads of State committed a further \$40–\$60 billion in resources to meet the aims of the Millennium Development Goals, which taken together would only amount to 0.5% of the GNP of OECD countries. See E/CN4/2003/WG18/2 at para 22. The report stresses the need to address LDCs’ and DCs’ current levels of debt that have severe domestic budgetary repercussions. For example, Africa cannot expand much-needed imports such as capital, intermediate and consumer goods, due to budgetary constraints imposed by servicing high international debt, and African exports have been less than half those of other developing countries. The report indicates that ‘Africa’s share of world exports

would be serviced by a support group, and which would review DC and LDC proposals for funding.¹⁹⁹ This callable fund is similar in concept to the MCA proposed by the US Bush Administration, but depends on multilateral funding, as opposed to the MCA.

What are the reciprocal obligations that could form the basis for any RTD-DC? The author argues that as regards the developed countries, the obligations could be putting in place a RTD Tax Relief as discussed above, honouring current commitments on ODA, and in the long term, honouring existing commitments under WTO law, such as Article 66.2 TRIPS on technology transfer and technical assistance, and already agreed provisions on Special and Differential Treatment for DCs and LDCs.²⁰⁰

As to the other side of the development compact, obligations on DCs and LDCs would be in developing national development policies that have the RTD as their very foundation; putting in place effective IPR regimes to facilitate technology transfer and FDI, and competition frameworks to check any imbalance of IPRs;²⁰¹ adopting new WTO scheduled commitments in telecommunications and related sectors and conducting more research at a national level, with the help of the international community (particularly the technical assistance programmes of the WB, UNCTAD and ITU) to examine the relationship between FDI, technology transfer, local spillover, and its implications for development and the Digital Divide.

10.7 THE WTO AND THE RTD TAX RELIEF

The author has argued above that the WTO's Trade and Transfer of Technology Group (WGTT) should be involved in establishing the terms on which the RTD Tax Relief could operate. The rationale for the WGTT becoming involved in setting policy that helps to achieve the RTD (effectively mixing trade with human rights) will depend to some extent on whether we have a *functional* or *civic* view (discussed below) of the WTO's power to act in this area, and specifically in determining the objectives of the WGTT (the remit of the WGTT is aimed at finding means of encouraging cross-border knowledge flows). The interface between trade and human rights is a very wide area and a full discussion is outside the scope of this book. However, in proposing a Right to Development Theory in this chapter, which seeks to enforce the RTD through economic law, the author is effectively bringing

declined from 3.9% in 1980 to 1.5% in 1997, owing largely to protectionism in the industrial countries against goods exported from Africa'. Ibid, para 25.

¹⁹⁹ Ibid, para 37.

²⁰⁰ Discussed in more detail in Chapters 8 and 9.

²⁰¹ Ibid.

together principles of economic law (namely, telecommunications, intellectual property, trade and technology transfer) with a human rights consideration. There are problems with this approach, as Addo comments:

In seeking to review IEL from the human rights perspective, one is often confronted with interesting doctrinal obstacles. There is often the suggestion that human rights belong in the public law domain where the restraint of governmental excesses is its primary if not sole concern. As a corollary, the economic domain is essentially a private domain that is regulated by the principles of the market place and any welfare benefits to individuals and society are only incidental to profit making.²⁰²

The United States, for example, has consistently supported the separation of trade from human rights concerns. In commenting on the need for the Commission on Human Rights to stick solely to enforcement of human rights, Marks observes: 'The United States is particularly adamant regarding the lack of jurisdiction of the Commission on Human Rights over matters of trade, international lending and financial policy, activities of transnational corporations, and other aspects of globalization'.²⁰³ Marks argues that the US perhaps is concerned that the limited resources of the Commission on Human Rights should not be diverted into discussing issues of trade, which are better left to other forums, such as the WTO, World Bank and IMF, and where the US is engaged in intense negotiations. As an aside, Marks also points out that in these same forums, the US is unlikely to have their interests challenged by issues of human rights, and it is for this reason that human rights activists and certain developing countries see the Human Rights Commission as the body to exercise pressure to ensure that human rights are not left out of economic and financial negotiations.²⁰⁴

Within the same context, Petersmann and Alston have been involved in a discourse on the relative merits of whether or not the WTO should involve itself more directly in the enforcement of human rights.²⁰⁵ Alston argues,

²⁰² Addo, K.M., 'Human Rights Perspectives', in *Perspectives in International Economic Law* (ed. Asif Qureshi), Kluwer Law International, 2003, p. 146, citing M. Friedman, 'The Social Responsibility of Business is to make Profits' in *Issues in Business and Society*, (eds Steiner, G.A. and Steiner, J.F.) Random House, 1977, p. 168.

²⁰³ Marks, supra note 6, p. 10.

²⁰⁴ Ibid.

²⁰⁵ Petersmann, E., 'Time for a United Nations "Global Compact" for Integrating Human Rights into the Law of Worldwide Organizations: Lessons from European Integration', *European Journal of International Law*, 13(62), 2002; Alston, P., 'Resisting the Merger and Acquisition of Human Rights by Trade Law: A Reply to Petersmann', *European Journal of International Law*, 13(815), 13, 2002.

. . . the relationship between human rights and trade is one of the central issues confronting international lawyers at the beginning of the twenty-first century and any proposal which purports to marry, almost symbiotically, the two concerns warrants careful consideration . . . an increasing number of authors who have called for the constitutionalization of the WTO and who consider that the inclusion of human rights within its mandate would help to overcome the democratic deficit from which it currently suffers.²⁰⁶

Alston is wary of such a role for the WTO. He is careful to distinguish human rights from trade rights:

Their purpose is fundamentally different. Human rights are recognized for all on the basis of the inherent human dignity of all persons. Trade-related rights are granted to individuals for instrumentalist reasons. Individuals are seen as objects rather than as holders of rights. They are empowered as economic agents for particular purposes and in order to promote a specific approach to economic policy, but not as political actors in the full sense and nor as the holders of a comprehensive and balanced set of individual rights. There is nothing per se wrong with such instrumentalism but it should not be confused with a human rights approach.²⁰⁷

Petersmann argues for the UN Committee on Economic, Social and Cultural Rights, along with the WTO, to 'take the lead . . . in interpreting and progressively developing the law of specialized organisations in conformity with universally recognized human rights'.²⁰⁸ Alston is sceptical of this view, arguing that:

[The WTO] is an institution which is dominated by producers, and in which the economic, social, cultural, political and various other interests of a great many people are not, in practice, represented. Its institutional structure, its processes and the outcomes it sanctions are far from what would be required of a body to which significant human rights authority could be entrusted.²⁰⁹

Alston also argues that: 'At the political level, the reluctance to incorporate any human rights dimension within the WTO framework, a position which the vast majority of governments have consistently manifested in that context, would need to be overcome'.²¹⁰ Petersmann by contrast argues that there is a role for the WTO in recognising the interplay between a right to trade and human rights: 'The everyday experience of billions of people who can survive only by trading the fruits of their labour in exchange for goods and services

²⁰⁶ Alston, *supra* note 205, pp. 5–6.

²⁰⁷ *Ibid.*, p. 16.

²⁰⁸ Petersmann, *supra* note 205, p. 625.

²⁰⁹ Alston, *supra* note 205, p. 30.

²¹⁰ *Ibid.*, p. 40.

indispensable for their personal self-development should be recognised as a human rights problem rather than merely as a legislative or administrative task to be left to “benevolent governments”’.²¹¹ There is an argument that a rights-based reading of WTO law could enhance its overall usefulness and legitimacy by protecting individual rights.²¹² There is also sense in Alston’s view that the WTO is not equipped to deal with enforcement of human rights, but should this also mean that the WTO would be well advised to ignore human rights considerations? Such an approach would be within a *functional* view of the WTO, but would be short-sighted, ignoring public sentiment as expressed in the demonstrations at *Seattle* for example. Much would depend of course on whether WTO agreements have the potential to be directly invoked by individuals.

Cass, in her seminal work on *The Constitutionalization of the World Trade Organization*,²¹³ moves away from a rights-based reading of WTO law and argues instead for what she calls *trade democracy*.²¹⁴ According to Cass, trade democracy would involve making development the centrepiece of trade constitutionalization.²¹⁵ This would involve reviewing the distributive consequences of WTO decision-making so that the WTO

can better fulfil GATT’s preambular objective to ‘raise standards of living’ especially in the developing world. Social as well as economic value could be formally incorporated in interpretations of trade, again fulfilling the GATT promise that trade is indeed about health, environment, and safety as well as economic policy. The slant of the trade playing-field caused by an underlying structure of private and public laws of contract, jurisdiction, companies, and, investment, for example, could be examined as an integral constructed part of the constitutional framework of the WTO, rather than facts beyond its reach. Instead of trading constitutionalization, trading democracy would be the aim, in a form that makes development central, rather than ancillary, to the constitutionalization project.²¹⁶

Cass goes on to argue that

²¹¹ Petersmann, E., ‘Taking Human Dignity, Poverty and Empowerment of Individuals More Seriously: Rejoinder to Alston’, accessed at www.ejil.org, December 2005, p. 2.

²¹² Petersmann, E., *International Trade Law and GATT/WTO Dispute Settlement System*, Kluwer, 1997, p. 121,

²¹³ Cass, D., *The Constitutionalization of the World Trade Organization: Legitimacy, Democracy, and Community in the International Trading System*, Oxford University Press, 2005.

²¹⁴ *Ibid.*, p. 26.

²¹⁵ The argument on whether or not the WTO should be constitutionalised is beyond the scope of this book.

²¹⁶ *Supra* note 195, pp. 26–7.

Putting trading democracy, emphasizing development, at the heart of the WTO is necessary, in my view, in order to reflect the authentic desires of the putative international trade community, to be faithful to the intentions of treaty farmers, and, to force into the open the relationship between trade and development, which is key to any effective, democratic, and lasting resolution of the problems of international economic order.²¹⁷

On this emphasis on development as the new key to international trade, Cass cites, by way of example, the 2000 United Nations Millennium Declaration, the aims of which are to eradicate poverty; achieve universal education; promote gender equality; reduce child mortality; improve maternal health; combat HIV-Aids and other diseases; ensure environmental sustainability, and develop a global partnership for development.²¹⁸ The now defunct Doha Round was intended to focus on development, although one can argue that its success in this regard has been mixed.²¹⁹

Like Petersmann, Addo also argues for an emphasis on human rights within IEL. Addo argues that the separation of IEL from other disciplines of international law ‘fetishises’ IEL into an untouchable domain, and that this separation and fetishisation are unjustifiable. In fact the opposite is true:

The central role of the human person in the drive behind IEL cannot be denied. It is humans, either as employees or consumers, who make the processes of IEL worthwhile. The inherent human physical and metaphysical entitlements that lie at the basis of human rights cannot be isolated from the economic engagements in which they are involved.²²⁰

Addo makes reference to the practice of the European Union, where, he argues, human rights are a central feature of inter-governmental and inter-institutional relations, and which ‘confirms the indispensability of human rights in the economic domain’.²²¹

Leader also captures this tension in the institutions that issue and enforce IEL and the conflict with human rights. For example, he looks at the interpretation of the WTO treaties and talks of either a *functional* approach or a *civic* approach to the use of the WTO’s power. Leader describes the functionalist approach as one that relies on the special, and not the general, objectives of the

²¹⁷ Ibid, p. 243.

²¹⁸ Ibid, p. 248.

²¹⁹ In October 2004, the WTO Committee on Trade and Development produced a report listing all the special and differential treatment provisions to be found in the WTO covered agreements for LDCs. See WT/COMTD/W/135, October 2004. The report simply lists the provisions, but makes no recommendations going forward.

²²⁰ Addo, *supra* note 202, p. 146, citing Friedman, p. 147.

²²¹ Ibid.

institution (WTO) concerned as fixing that institution's appropriate responsibilities. Thus, according to the functionalist view, he argues that

if it could be shown that opening markets to certain goods and services damages the prospects of certain local populations, the functionalist claims that this is not enough to attach the responsibility for those effects to the WTO. The proper concern of the organisation, from this perspective, is not to achieve comprehensive fairness, but only to achieve the limited sorts of fairness that its commitment to non-discrimination among goods and service providers involves.²²²

By contrast, the *civic view* does not tie the WTO to its special objectives but anchors those objectives within wider concerns: '... consider the WTO rules that affect access to education or health, or affect the full range of labour rights. Based on the civic approach, if those effects are significant then the organisation [WTO] is responsible'.²²³

In proposing the RTD Theory, the author is not arguing for the WTO to directly enforce human rights or for a rights-based reading of WTO law. In effect the author's argument is more in line with that of Cass, looking for the organs of the WTO, such as the WGTT, to place developmental concerns at the heart of its thinking. So, for example, the author is arguing for the WTO's WGTT to put in place effective criteria and indices (discussed above in Section 10.5.1.5) for technology transfer that will then allow WTO members, most notably the Quad countries, to implement national legislation that will bring the RTD Tax Relief to life (subject to State Aid and WTO subsidy concerns), thereby indirectly enforcing the RTD. This is a tall order given the US's historical reluctance to accept the RTD, for example. As part of the RTD development compact, however, DCs and LDCs will also need to put in place IPR and competition regimes, provisions on FDI, and provisions to effectively enforce civil and political, economic, social and cultural rights at home. If such countries are also serious about addressing the Digital Divide, then DCs and LDCs will also need to adopt the recommendations set out in Chapter 7 of this book to adopt a revised Reference Paper on telecommunications, increased market access commitments in information technology and commitments on clusters of services that facilitate network-based transactions.²²⁴ As mentioned in Chapter 7, DCs and LDCs will also need to consider the special and exclusive rights, and any services of a general economic interest (SGEI)

²²² Leader S., 'Trade and Human Rights II' in *The World Trade Organisation: Legal, Economic and Political Analysis*, (eds Macrory, Appleton, and Plummer) Springer, 2005, pp. 663–96.

²²³ Ibid.

²²⁴ Discussed in Chapter 7. See also recommendations for IPRs and e-commerce in Chapters 8 and 9 respectively.

that their incumbent operators might have to protect their national markets from too fierce competition too early which could lead to some *crowding out* of local operators.²²⁵

Besides the arguments posed above by Leader in seeing a civic role for the WGTT and Cass in having the WGTT emphasise a trade in democracy, we can also ask whether it is *fair* in IEL for the WTO (WGTT) to act on behalf of DCs and LDCs in helping to achieve the RTD Tax Relief. In his seminal work on *Fairness in International Law and Institutions*,²²⁶ Franck argues that the fairness of international law will be judged first by the degree to which the rules satisfy the participants' expectations of justifiable distribution of costs and benefits, and secondly by the extent to which the rules are made and applied in accordance with what the participants perceive as *right process*.²²⁷ There are two aspects of fairness – substantive (distributive justice) and the procedural (right process) – and these two may not always be in line, but may sometimes be in tension with each other, because distributive justice favours change, whilst right process favours stability and order. Fairness then is the rubric under which this tension is discursively managed.²²⁸ Franck argues that the perception that a rule or system of rules is distributively fair also encourages voluntary compliance, and that the law promotes distributive justice not just for compliance issues, but because 'most people think it is *right* to act justly'.²²⁹ However, in following Rawls' *Theory of Justice*,²³⁰ Franck argues that there are two conditions for fairness to work, one condition being the concept of *moderate scarcity* and the other, *community*. Moderate scarcity involves there being just sufficient raw materials or resources for states to debate over (rather than nothing at all or too much), for then the issue of allocating those resources between states arise. Community means sharing a common sense of value or goals. Franck talks of a community based on a common, conscious system of reciprocity between its constituents. The perception of fairness of any particular rule will then depend on a promise to treat 'like with like'. To achieve this there needs to be a *community*. It is this sense of Franck's community that is needed if the WGTT is to act on behalf of DCs and LDCs in formulating the criteria required for the RTD Tax Relief and for developed nation states to implement it in their national legislation. The complex web of BITs and FTAs, and the idea of globalisation, now make it more possible for this sense of community to

²²⁵ See Section 10.5.1.6.

²²⁶ Franck, M.T., *Fairness in International Law and Institutions*, Oxford University Press, 1995.

²²⁷ *Ibid.*, p. 7.

²²⁸ *Ibid.*

²²⁹ *Ibid.*, p. 8.

²³⁰ Rawls, J., *A Theory of Justice*, revised edition, Oxford University Press, 1998.

exist, as states are increasingly interdependent. Only with both developed and developing states pursuing a shared perception of fairness can any lasting allocational rules pull towards voluntary compliance. Without a sense of community there can be little hope of real agreement. However, as Franck argues, sometimes the very indeterminacy of an agreement can allow breathing space for something more substantial and precise to follow. The author argues that the RTD Tax Relief could be one such measure.

Franck also discusses another core principle of fairness, that of the *Maximin* principle, which states that inequalities in the access or distribution of goods must be justifiable on the basis that the inequality has advantages not only for its beneficiaries but also for everyone else. In other words, unequal distribution is justifiable only if it narrows, or does not widen, the existing inequality of persons' and/or states' entitlements. Rawls in justification of the Maximin principle argues: 'If there are inequalities in the basic structure that work to make everyone better off in comparison to the benchmark of initial equality, why not permit them?'²³¹ Applying the Maximin principles to the operation of the RTD Tax Relief, we could then justify the sliding scale of tax relief given to developed country technology multinationals depending on whether they offer technology transfer to producers in a DC or LDC.²³²

It may well be that some proponents of the NIEO will oppose the idea of a RTD Tax Relief, seeing it as a child of 'Western modernisation' and arguing that fairness instead should consider only 'equalizing outcomes'. This idea would argue that any tax relief given should be equal, or that competition should not crowd out local producers, regardless of the effect of such equalisation on a society's productivity and its capacity to compete. The author argues that if we were to take either the civic approach to the WTO's power as described by Leader above and/or to apply Franck's fairness discourse, then the WGTT as an organ of the WTO would have a wider responsibility to act to help achieve the RTD through FDI/technology transfer.

The need for IEL institutions such as the WTO and World Bank to take a more equitable role in the area of development and combine an economic law approach with an increasing role for the private sector in development was recognised at the recent Sixth Ministerial Conference in Hong Kong in December 2005. The Ministerial Declaration for that conference sets out a new agenda for *Aid For Trade* (AFT):

²³¹ Rawls, J., 'The Law of Peoples' in *On Human Rights* (eds Shute, S. and Hurley, S.) (The Oxford Amnesty Lectures), HarperCollins, 41–82 (1993), cited in Franck, *supra* note 222, p. 18.

²³² See Section 10.5.1.5 above.

... Aid for Trade should aim to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to expand their trade. Aid for Trade cannot be a substitute for the development benefits that will result from a successful conclusion to the DDA [Doha Development Agenda], particularly on market access. However it can be a valuable complement to the DDA . . .²³³

The AfT agenda sees an increased role for private industry to get involved in development using a combination of grants and loans to achieve developmental objectives. In theory, AfT could also help offset the negative implications of a reduction in MFN tariffs with progressive trade rounds and the resultant erosion of the value of preferential tariffs under a General System of Preferences for DCs/LDCs by the US and EU (GSP regimes are discussed in Chapter 9). In 2002, the UN conference on Financing for Development in Monterrey, Mexico already stressed the need for the private sector to promote development. However, in a paper on AfT, Brewster takes a more critical approach, arguing that trade-related aid has in the past underperformed in failing to rationalise and prioritise activities to be supported, in a lack of *bona-fide* coordination among donors, and a complete lack of concern for measurable results.²³⁴ He argues that if the private sector is to be involved in delivering aid then we should be very clear as to its role. He sees the range of supply-side constraints falling into two broad categories (a) trade-related infrastructure constraints (involving infrastructure preparation such as project identification and project planning); infrastructure software involving the design of technical assistance and systems for the operation of infrastructure, and infrastructure construction involving the actual build of the project; and (b) production and marketing constraints that restrict DC and LDC producers in getting their products to market. According to Brewster, AfT should be targeted at both (a) and (b) with the exception of infrastructure construction.²³⁵ In a separate paper for the Commonwealth Office on AfT, Stiglitz and Charlton argue that the WTO should drive the AfT agenda with the World Bank acting as custodian of a new *Global Trade Facility* (GTF) as a financing mechanism mainly because the WTO is not as well equipped to administer aid budgets, but is better equipped to enforce any potential commitments made by developed countries

²³³ Ministerial Declaration, Sixth Ministerial Conference, Hong Kong, WT/MIN(05)/DEC, para. 57, December 2005.

²³⁴ Brewster, H., 'Challenges Faced by the Private Sector in Taking Advantage of the New Trading Opportunities under the International Trading System', March 2006, pp. 3–4.

²³⁵ *Ibid.*, pp. 6–7.

to AfT and the GTF. Stiglitz and Charlton argued that the WTO's Doha Round would be the ideal forum in which to commit funds and to ensure that aid is not just a political commitment that can be withdrawn at any time if for example a recipient country acts in a manner unfavourable to a donor country. Unfortunately, as we now know, the Doha talks collapsed. The Doha Round was to result in contractual commitments that could have been backed by the WTO's dispute resolution process, although one would argue that the chances of a DC or LDC enforcing commitments against a much more powerful adversary through the WTO's DSB are limited, given the issue of access to adequate technical resources. Nevertheless, there are future rounds to consider. Driven by the widespread view that the international trading system is inherently unfair to many DCs and LDCs, the role of the WTO in implementing AfT could offset the increasing marginalisation of developing countries in world trade.²³⁶ As Stiglitz and Charlton point out:

A third (related but more general) rationale for aid for trade is fairness. There is no doubt that the ambitious Doha Round will deliver significant gains to the rich countries, and that these gains will far outweigh the gains to poor countries. For some, aid for trade is a mechanism of redistribution through which the reality of the unbalanced outcome can be squared with the rhetoric of the 'Development Round'.²³⁷

Stiglitz and Charlton go on to point out that the lack of supply-side capacity is the real barrier to trade which limits market access for poor countries. In other words, there is no point in having preferential tariffs or tariff-free entry to developed country markets if developing countries are unable to export due to lack of domestic infrastructure and know-how. Current aid programmes to LDCs are managed through the Integrated Framework for Technical Assistance to LDCs (IF) through a coalition of six donor agencies, including the IMF and World Bank. Stiglitz and Charlton argue that the IF should be maintained, but managed more centrally through the World Bank. They also argue that the GTF could support the development of institutions capable of facilitating the transfer of technology to DCs and LDCs.²³⁸ This new role for the WB and WTO to act with fairness and a potential mandate for the GTF to assist with transfer of technology could be grounds for the AfT program helping to fund (subject to State Aid and subsidy rules) an RTD Tax-Relief.²³⁹

²³⁶ Stiglitz, J., and Charlton, A., 'Aid for Trade: A Report for the Commonwealth Secretariat', March 2006, p. 8.

²³⁷ *Ibid.*, p. 4.

²³⁸ *Ibid.*, p. 27.

²³⁹ At the time of writing at the Sixth Ministerial Conference in Hong Kong, the Ministers invited the WTO Secretary-General to set up a task force to deliberate on the AfT concept and to deliver recommendations to the WTO General Council with the aim of bringing it to life.

Chapter 10 has emphasised the role of technology (and importantly appropriate technology) to help with development. The author suggests through the involvement of private industry the use of a RTD Tax Relief to incentivise the MNCs to transfer appropriate technology to producers in the developing world. Such MNCs need not only be from developed countries, they can just as easily be situated in industrialising nations, such as China and India, or the more developed countries of Singapore, the special economic zone of Hong Kong, Taiwan and Korea for example. The aim of encouraging these countries to adopt the RTD Tax Relief would be to generate increased *South–South* trade.

The author has outlined the terms on which the RTD Tax Relief might operate, but has not detailed the *nature* of this relief, whether for example the relief should apply as offsetting any corporation tax paid by the MNC; a reduction on any *sales tax* or *value added tax* that the developing country producer might have to pay to purchase the necessary technology, or as a form of *export credit* to the MNC etc. This will be the subject of further research. If the tax relief is to apply to MNCs, many of whom will be located in the developed world, a central question is whether the developed countries funding the relief should divert funds from ODA (or as part of a program of AfT) in subsidising these already wealthy MNCs? This is a valid question, as funding such a tax relief (in this way) might seem morally reprehensible. We must recognise however the role of the private sector in being the gatekeepers of knowledge sourced from valuable R&D and who will be unwilling to give access to private property rights (IPRs) without incentive. Developing countries need appropriate technology and many, particularly the LDCs, do not have the means to fund it where poverty is defined as less than US\$1 a day. In the 1950s and 60s at the height of the cold war, many US corporations were required to work closely with government where public taxes effectively funded (through government channels) important R&D. When many of these corporations later privatised, this R&D (so called dual purpose technology) became valuable company assets subject to IPR protection. The position has clearly changed and companies, particularly in the developing world, do not have access to fund R&D through government coffers on nearly the same scale. As we saw in Chapter 8, companies will fiercely protect their R&D particularly in jurisdictions where the IPR regime is perceived to be weak. The RTD Tax Relief is meant to help incentivise MNCs to license their technology and increase the chance that they might take risks in licensing in jurisdictions that they would otherwise avoid.

However, as Kirsteen Shields (a colleague on the Arts and Humanities Research Council project on *Fair Trade Networks* that the author is currently engaged) has suggested, there are also dangers in involving the private sector. Any attempt to solve social problems with technology must also address the

literacy gap (exclusion of the illiterate community), the *curriculum gap* (lack of basic education available in the appropriate language to help the most vulnerable and poor gain access to the appropriate technology), the *energy gap* (lack of an efficient and adequate power supply), and the *economic survival gap* (existence of food, clean drinking water, and sanitation). Unless these gaps are addressed, the technology transferred by way of the private sector might lead to pockets of rapid economic growth but with increased exclusion of the poorest.

This has to be right. In societies where there is disregard for the rule of law and with low social cohesion and state failure for provision of basic human rights, such as subsistence, basic health care and basic education, there is a risk that the role of the private sector in development could lead to uneven distribution and greater class polarisation, unless these gaps are effectively addressed. Also, there is the broader question of the danger of responsibility for social obligations migrating from government, via government regulators or executive agencies, to the private sector, where accountability (to the public at large and not shareholders) might be lower.

Joseph Stiglitz, a past chief economist of the World Bank has called for economic growth to include objectives of sustainable development, egalitarian development, and democratic development (note that the Articles of the World Bank prohibit its involvement in domestic politics). In pursuing these objectives Stiglitz calls for sound financial regulation, competition policy, and policies to facilitate the transfer of technology and transparency to make markets work that support development.²⁴⁰

However in ‘making markets work’, any technological solution that attempts to solve social problems must be achieved on the basis of equity and justice and with respect for the full vector of all human rights, such that no one right is diminished at the expense of a growth in the others. This is the premise of the RTD.

²⁴⁰ Williamson J., ‘What should the WB think about the Washington Consensus’, *The World Bank Research Observer*, 15 (2), 2000.

PART IV

Conclusion and annex

11. Conclusion

11.1 INTRODUCTION

As mentioned in the Introduction to this book, in regulating technology, states use a combination of *ex-ante* or sector-specific (for example, telecommunications) and *ex-post* measures, such as competition law. Also included is the regulation of property rights, specifically intellectual property, and the balance to be achieved between innovation and the control of monopoly. As outlined in Chapter 1, all these issues can safely fall under the umbrella of International Economic Law (IEL). Also falling under the same umbrella is international development law and this book primarily concerns the use of technology in international development specifically in the context of Developing Countries (DCs) and Least Developing Countries (LDCs). One further point is that in discussing the UN Right to Development, this discussion by necessity must also include a discussion of the *evolution* of that right (Chapter 10) and its relationship to the general discourse on human rights. The aim, however, is not to debate a rights-based approach to development with that of the RTD, but to keep the focus on the RTD so long as we can accept the assumption that the RTD is a composite right of the separate civil and political, economic, social and cultural rights. We saw in Chapter 10 that this assumption is a contentious one. Nevertheless in proposing a *Right to Development Theory* in Chapter 10, which seeks to enforce the RTD through economic law, the author is effectively bringing together principles of economic law (telecommunications, intellectual property, technology transfer) and human rights, which taken as a whole can be viewed as a form of hybrid approach between that of the ‘plain vanilla RTD’ as proposed by the Like-Minded Group on the one hand and the approaches taken by the US with its MCA and the UK’s Commission for Africa on the other.

Chapter 1 of this book raised three questions:

- (i) What are the primary sectors in IEL that relate to the Digital Divide?
- (ii) How are these sectors regulated and how can current regulation be improved to help address the Digital Divide?
- (iii) Is it possible to define a relationship in IEL between civil and political, economic, cultural and social rights as a collective for example in the form of the much debated and somewhat controversial *Right to*

Development (the ‘RTD’ as defined in this book) on the one hand, and the Digital Divide on the other? And if such a link does exist, how can the RTD be enforced so as to address the Digital Divide?

11.2 RESPONSE TO THE QUESTIONS

We saw in Chapter 2 the various definitions of what is meant by the term ‘Digital Divide’. The author will not repeat the results of the various research studies reviewed in Chapter 2 here, but will highlight the relevant sectors that the research flagged up as being most directly connected with the Digital Divide. These sectors include: internet diffusion and access to infrastructure; IT penetration; competition; intellectual property (IP); telecommunications; trade policy; innovation; alternative development, appropriate technology and the enforcement of civil and political, economic, social and cultural rights in the host State.

11.2.1 Second Question

The second question then asks how these sectors are *regulated* and how current regulation can improve to help address the Digital Divide. The bulk of the book addresses this second question. Chapters 3 to 10 review the regulation of the relevant sectors that impact most directly on the divide. For example, the research studies referred to in Chapter 2 indicate that increased flexibility in telecommunications policy through the use of competition law enhances IT penetration and internet use and therefore will help address the Digital Divide. As we saw in Chapter 2, Chinn and Fairlie’s results appear to confirm Dasgupta et al.’s finding of ‘regulatory factor’ significance. So variables such as GDP, telephone density and regulatory quality (as measured by an index assessing market-friendly policies) are important for growth in PC and internet density. Chapters 4 to 6 and Chapter 7 address this ‘regulatory factor’, reviewing various policy approaches for telecommunications that could address the Digital Divide. In Chapter 5, we encounter the Layering Theory, a regulatory tool that will allow National Regulatory Authorities (NRAs) greater power to accurately determine market power in the communications sector. The author contends that as more traffic is switched over TCP/IP networks it will become increasingly important for regulators to accurately determine where the access bottlenecks are so as to regulate for effective competition. If incorporated into the RP, the function of the Layering Theory is to increase *effective competition* between providers of international digital networks and services at the multilateral level. The theory is to give NRAs/NCCs a tool for accurately determining a relevant market in the communications sector and thereby determine dominance. Once dominance is determined access can be mandated to such networks even in the

absence of abuse (provided the necessary legislation is in place), so long as the dominant network can be viewed as an access bottleneck. In Europe, Article 12 of the EC's Access and Interconnection* Directive for electronic networks and services already sets such a precedent and it is an important one if effective competition is to be maintained. The Layering Theory then allows for operators that would otherwise not be caught by current competition jurisprudence (for example due to the difficulty of defining an appropriate relevant market) to be caught by competition law and in appropriate cases, access mandated. Such a power is particularly important in markets where electronic applications are driven by software just as much as hardware (for example, electronic program guides, the production/manufacture for which could be outsourced to a third country). Furthermore, by applying the theory at the *multilateral* level by amending WTO measures such as the regulatory Reference Paper (as suggested at Annex 1 to this book), the author is advocating increased effective competition at the multilateral level for cross-border electronic services under Mode 1 or consumption abroad of electronic services under Mode 2 GATS. The Layering Theory will allow increased market access and national treatment for any operator (whether from a developed or developing country) to deliver electronic intangibles into a target WTO Member State (subject to WTO scheduled commitments). This would be particularly advantageous for ISPs in developing countries. Without developing country ISPs being able to gain access to the networks of the international backbone operators who control the internet on non-discriminatory and transparent rates, LDC/DC operators will not be able to export electronic intangibles over these networks on a non-discriminatory and transparent basis, and will not therefore gain enhanced market access. Failure to gain market access will in turn not help address the Digital Divide. To ensure that LDC/DC operators have the means to lodge complaints to relevant authorities having jurisdiction over international cross-border traffic (by way of their trade representatives and national governments to the WTO's DSB for example) and developed country national telecommunication markets (NRAs/NCAs) will of course be subject to regulators in both the developed and developing worlds having access to the OSI Layer 5-7 filtering and cost accounting technology, upon which the Layering Theory depends. Operators and regulatory authorities in the developed world already have access to such technology. The RTD Tax Relief could be used as a means to help incentivise such operators/regulatory authorities to transfer the technology and technical expertise required to the developing world, and through World Bank/WTO/UNDP/ITU technical assistance programs.

* EC Directive 2002/19. See recitals 6 and 19 of the Directive that explain the need for access and Articles 5 and 12 of the Directive that establish the conditions for access.

The ability of DCs and LDCs to export electronic intangibles into developed country markets will also depend on potential WTO rules on classification (Chapter 6). As we saw in Chapter 6, cross-border trade in electronic services under GATS Mode 1 has been substantially strengthened as a result of the WTO's Appellate Body report in *US-Gambling*. However, the more thorny issue of how electronic intangibles might come to be classified by the WTO is yet to be determined. A classification decision either through the DSB or by agreement within the WTO membership will have significant implications for DCs and LDCs. For example, we saw in Chapter 6 how tariff peaks already create strong disincentives for LDCs/DCs to move towards processing raw materials and agricultural commodities and higher value added manufacturing products. They reduce the gains from trade, hinder efforts to technologically upgrade, and restrict a country's financial capacity to import technology.¹ If applied to electronic intangibles, say as an indirect consequence of the WTO membership at some future stage agreeing to classify electronic intangibles as goods rather than services,² then the gains already made by certain DCs in the IT sector could in time be severely curtailed.³ Whatever solution is found to the problem of classification of electronic intangibles, Members' trade negotiators need to be careful not to get too bogged down in entrenched positions that lead to protracted negotiations within the various councils of the WTO, and on cross-cutting issues in the General Council. Paragraph 34 of the *Doha Mandate* requires WTO Members to 'recognize the importance of creating and maintaining an environment which is favourable to the future development of electronic commerce'.⁴ Unless a solution is found to the problem of classification, the WTO risks falling behind as business continues to do what it has been doing throughout history, using technology in advance of the law to further its own commercial interests.

¹ WT/WGTTT/M/1, para. 41.

² Or potentially as a long-shot, the WTO's Dispute Resolution Body ruling on the point, although it could be argued that the DSB should not be used to interpret the WTO members' *collective intent* rather than forcing governments to legislate because they could not agree on a common approach. For a more detailed discussion, see Drake, W., and Nicolaidis, K., chapter 14, 'Global Electronic Commerce and GATS: The Millennium Round and Beyond' in *GATS 2000 New Directions in Trade in Services* (eds Sauve, P., and Stern, R.) Brookings Institution Press, 2000, p. 410.

³ Current WTO Members have agreed a *moratorium* on the use of customs duties for electronic transmissions. The moratorium was still in place at the last meeting of the General Council of the WTO in 2003. The moratorium was again confirmed at the Sixth Ministerial WTO Conference in Hong Kong in 2005 (WT/MIN(05)/DEC). This moratorium is not legally binding and it remains open to WTO Members to agree to impose customs duties on electronic intangibles at some point in the future, WT/GC/W/509.

⁴ WTO, Doha 4th Ministerial – Ministerial declaration, WT/MIN(01)/DEC/1, 2001.

As mentioned in Chapter 7, adoption of a revised RP in light of the Layering Theory works both ways; DC and LDC markets will be just as open to competition by aggressive and efficient foreign operators as developed country markets by DC and LDC operators who are able to undercut on costs for innovation and service delivery due to access to a cheaper workforce. As Chapter 7 outlines, DC and LDC commitments to a revised RP can still be made so long as adequate measures to protect domestic incumbent telcos have been implemented in national law prior to such a commitment being made. For example, DC and LDC governments can choose to introduce legislation that will protect any incumbent telco from new competition measures (brought in by adoption of the revised RP) that is responsible for *services of a general economic interest* (SGEI), for example universal service/universal access and public broadcasting functions. The European Commission was successful in protecting its Member States' national telco incumbents in just this way through the operation of Articles 86(2) and 86(3) of the EC Treaty, for example, which sets out the framework for SGEI in Europe.

In the next trade round, either as part of the Doha negotiations or more likely in subsequent rounds, if G-90 countries were to seek from the Quad countries GATS-specific commitments in network-based transactions and complimentary services (services ancillary to telecommunication services, such as financial, distribution, computer, audiovisual etc.), DCs and LDCs who are able to attract sufficient FDI into their home markets and who can utilise beneficial technology transfer to innovate based on a well-trained resource of human capital, will be able to make use of such commitments to generate an export portfolio of advanced network electronic services and goods into markets in the developed world.

Again as discussed in Chapter 7, G-90 countries could also seek a phased implementation for any revised RP in light of the Layering Theory applying to packet-switched networks. There is also nothing to stop DCs and LDCs liberalising their own telecommunications regimes independently of the WTO and the RP, and at a pace that suits their own developmental needs. The crucial question will be the need to attract FDI. Many of the LDCs have not made the switch from legacy circuit-switched networks to packet-switched technology for obvious costs reasons and therefore would have little interest in any revision of the Reference Paper as it stands. However as UNCTAD's *World Investment Report* (2004) has shown, a number of DCs, such as Singapore, China, India and Korea are not just magnets for inward foreign direct investment (FDI), but also are becoming *suppliers* of foreign direct investment themselves, and usually through technology-orientated companies, such as Singapore Telecom and the Hong Kong-based Hutchinson Telecom. The 2005 World Investment Report confirms this finding. Countries, such as India have also proved that a successful outsourcing operation can be developed with

appropriate human resources and technological capability at home. It is perhaps some of these more advanced DCs that can (at first) see real advantages in adopting the Layering Theory, and further through implementation of a RTD Tax Relief, receive the technology transferred from developed countries necessary to implement it.

Chapter 7 discusses how DCs can use the New Modes of Operation (introduced in Chapter 3) *in reverse*, aggregating traffic for termination in developed countries. Much will depend on the relative negotiating positions of the parties concerned. Negotiations for the RP eventually succeeded because the United States was willing to open its telecommunications market to a certain level of competition subject to a ‘critical mass’ of offers being received from other WTO members in accepting the pro-competitive conditions of the RP. In a similar way, the Quad countries might be very resistant to DCs and LDCs protecting their domestic incumbents by DC/LDC regulators ruling out competition in SGEI service markets (see Chapter 7). However if DCs and LDCs were to also make a ‘critical mass’ offer of opening up TCP/IP internet services to competition (subject to other GATS service sector scheduled commitments in complimentary services), then such a restriction might be more acceptable to the Quad countries.

The other argument that needs to be made in favour of developing countries is that as a number of these countries develop their ICT industries, invest in IP-based infrastructure, develop the necessary human resource skills in areas of protocol design, coding, hardware and software development, and begin to identify technology service products that are suitable for export over network-based technologies (‘complimentary services’), such countries will then need to enforce the provisions of Article IV GATS, which deals with increasing the participation of developing countries in international trade in services.⁵ The positive list approach of the GATS and Article IV could allow for increased participation of developing countries in services technology trade, but Article IV, dealing with the Special and Differential Treatment of developing countries,⁶ needs to be enforced by the WTO membership as a collective, 90% of which consists of developing country members. For example, paragraph 5 of Article IV

⁵ For an excellent discussion of the need to implement Article IV GATS, see the Communication from Cuba, Pakistan, Senegal, Sri Lanka, Tanzania, Uganda, Zambia and Zimbabwe on Increasing Participation of Developing Countries in International Trade in Services: Effective Implementation of Article IV GATS, S/CSS/W/131, December 2001.

⁶ Virtually all WTO agreements have special provisions with respect to developing country members, known as *Special and Differential Treatment* terms. See the WTO report, *Implementation of Special and Differential Treatment Provisions in WTO Agreements and Decisions*, WT/COMTD/W/77.

discusses the desire ‘to facilitate the increased participation of developing countries in trade in services and the expansion of their service exports including *inter alia*, through the strengthening of their domestic services capacity and its efficiency and competitiveness’. Furthermore subparagraph 1(c) of Article IV mentions better market access for developing country services exports through liberalisation in sectors and modes of supply of *export interest* to them. Subparagraph 1(b) goes on to discuss access to developed country distribution channels and information networks. Neither distribution channels nor information networks are defined in Article IV, but it would be reasonable to argue that such networks and channels would include developed country telecommunication networks, including IP-based networks. In future trade rounds, it is in such areas that the thrust of negotiating resources should apply, at least in the technology sectors. These issues have been discussed in Chapter 7.

In addressing the Digital Divide, DCs and LDCs will also need to liberalise their home markets using measures in economic law. The DFID Internet Costs report on reducing the costs of access to the internet in developing countries referred to in Chapter 2 discusses a number of possible sectors to liberalise to quickly bring down the cost of accessing the internet in the hope that internet penetration will then spread and help address the Digital Divide.⁷ The sectors to target include international leased-lines, domestic leased-lines, long-distance telephony, very small aperture terminals (VSAT) connections (ISPs in Africa, for example, use satellite-based channels for incoming data, often for cost reasons aggregating outgoing data on shared international private leased circuits), and internet telephony.⁸

The DFID Internet Costs report makes clear however that liberalisation of the first three (traditionally profitable) markets often means the withdrawal of cross-subsidies to the traditionally loss-making markets of local access and calls, with consequent price rises. In recent years internet use has reduced the need for such ‘rebalancing’ (as lost revenues are recouped from additional internet use, up to the limits permitted by network capacity). However, the DFID report recommends that moderate local price rises are usually worth paying for the benefits of liberalisation,⁹ and that permitting private VSAT

⁷ Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Kariyawasam, R., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., ‘Reducing the Costs for Internet Access in Developing Countries’, Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published on the internet at: <http://www.wesra.com/cost1.htm>. See section 5 of the report (Policy options to lower costs).

⁸ Ibid, p. 47.

⁹ The DFID report argues that some countries may want to consider special price plans for low users, who suffer the highest price rises through rebalancing.

connections with both-way transmission could allow major cost reductions for leased-line customers (usually the small ISPs in Africa or Asia dependent on the large incumbent telcos), especially as new lower-cost satellite offerings become available. Also the DFID report suggests that liberalising internet telephony could be particularly beneficial for both ISPs and users,¹⁰ though often initially unwelcome to incumbents. Internet telephony could provide extra traffic to ISPs who choose to offer telephony, enabling economies of scale and eventually lower internet access costs to be achieved, as well as cheaper phone calls for end users.¹¹ The DFID report argues that liberalisation of internet telephony could generate sufficient additional traffic to compensate the incumbent telco for any lost revenues.

In surveying the case study countries in Africa and Asia, the DFID report also finds that complaints are common that the ISP run by the main incumbent telco has unfair advantages over all other ISPs.¹² For example, the incumbent telco is in a position to apply a margin squeeze on the inputs of other competing ISPs and yet possibly (and illegally if the law is in place) allow the incumbent to cross-subsidise its own ISP downstream subsidiary (from say revenues generated through its monopoly voice business). To prevent this, accounting separation (and structural measures) introduced by NRAs may be required in enforcing the strict separation of ISPs from incumbent telco operations. Structural separation may well be the better course. Also, the DFID report comments on the high level or inappropriate structure of licence fees (for example, turnover-based levies). Generally, licence fees should only cover necessary regulatory costs and should not be used as a source of government revenues.¹³ In summary, the NRA in DCs and LDCs should strive to maintain the lowest licence fees for all internet operators, and particularly for *telecentres* which serve multiple users in rural or remote areas.¹⁴

Clearly the findings in research studies, for example the DFID Internet Costs and DFID CSEED ICTs study discussed earlier, point the way to *macro IEL* policy solutions operating at the national and international levels. Furthermore, many of the ideas suggested by the author in this book; the *Layering Theory* for increasing transparency of access to incumbent networks

¹⁰ The DFID report uses the term to mean a phone-to-phone service accessed by dialling a prefix and carried over the internet.

¹¹ Supra note 7, p. 47.

¹² Ibid.

¹³ This does not apply to permissions to use scarce resources like spectrum or telephone numbers.

¹⁴ In some countries, however, the tax system may be rather inefficient, so that efficiency in the economy overall may actually be better if revenue is raised through telecoms licence fees than through the tax system. See Section 5.1 of the DFID Internet Costs report.

in developed countries by third country operators (Chapters 5 and 7); using the *new modes of operation* in reverse (Chapter 7); the use of competition law in ensuring beneficial technology transfer and to check the potential abuse of monopoly IPR rights by MNCs (Chapter 8); and recommendations for amendments to the US Trade Act 2002 (Chapter 9) and suggestions by the CIPR for an extension granted to LDCs for patent protection to pharmaceuticals to 2016 to be broadened to cover the implementation of the TRIPS as a whole, and that the TRIPS Council consider introducing *criteria* based on Article 66.1 TRIPS (indicators of economic development and scientific and technological capability) to decide the basis on which LDCs should enforce their TRIPS obligations after 2016 (Chapter 9), are all suggestions that follow the ‘Modernisation’ school of thought. These suggestions also fall neatly into line with the school of ‘law and development’ (Chapter 10). Also, although the author agrees with Soeftestad and Sein’s view of Alternative Development¹⁵ (for example in light of the Jamaica case study) discussed in Chapter 10, the author suggests that such a view is more appropriate to the actual use of ICTs in development projects at the *local community* level, but that in order to address the Digital Divide, national and international measures are also required, which because of the globalised nature of the communications industry, require those measures to conform with IEL, predominantly international law driven by the West. Soeftestad and Sein’s view of Alternative Development is discussed further below in response to Question (iii).

Gordon and Sylvester are particularly scathing of international law. They argue:

International law is based in part on shared interests, but it is also based on power and that power resides with the industrialized world, and more particularly these days, with the United States. Law has been used in the service of development and as a mechanism to control the Third World, through such principles as prompt, adequate and effective compensation . . . International law proved incapable of assisting the non-West, for its purpose is to serve the West. In the era of globalization, international law will be an even stronger part of the edifice that locks the Third World into chasing a future that is made in the West through the discourse of Development.¹⁶

There is no doubt some truth to this. However, the RTD Theory, which the author developed in Chapter 10, as well as the RTD Tax Relief are also measures which are intended to operate at both the international and national levels, and again follow the ‘Modernisation’ school of thought. Both are

¹⁵ Soeftestad, L. and Sein, H., *supra* note 56, Chapter 10.

¹⁶ Gordon, R., and Sylvester, J., ‘Deconstructing Development’, *Wisconsin International Law Journal*, 22(1), 2004, p. 17.

discussed further below in response to Question (iii). The author suggests that what is needed in order to truly address the Digital Divide is a *combined* approach utilising both Alternative Technology at the local community level, but also aspects of IEL as set out in this book, for example legislative measures in telecommunications law, competition, intellectual property, trade and investment. In effect, the author is suggesting that those very measures that Gordon and Sylvester rightly attack should also be the instruments that DCs and LDCs use to address the Digital Divide.

The RTD Theory is based on the concept of growing GDP and FDI. By making a link between the RTD and the Digital Divide, the author is also making a link between GDP, FDI and the Digital Divide. In effect, growing GDP and FDI will help address the Digital Divide. This is borne out by the available research as shown in Chapter 2 and further discussed in Chapters 5, 7 and 10. For example, Dewan et al.'s examination of a panel of 40 countries over the period 1985–2001 is revealing:

To the extent that the Digital Divide is a concept that relates IT adoption to national income, the quantile regression results for the GDP per capita variable are fundamental to illuminating the mechanisms behind the Divide. We find that not only is the association between GDP per capita and IT penetration positive and significant, but it is stronger at higher levels of IT penetration. This 'feedback effect' between GDP per capita and IT penetration drives a wedge between developed and developing countries, reinforcing the Digital Divide.¹⁷

We can argue therefore that there is a relationship between GDP and IT penetration levels, and if IT penetration for example could be increased through technology transfer (technology processes), then GDP will grow. It is not clear from the results whether the converse applies and that growing GDP levels will grow IT penetration. Research indicates that FDI is also linked to GDP: that growing FDI will grow GDP. FDI may enhance government revenues, which can be direct, for example through taxation of corporates, and indirect, by raising economic growth, and therefore the total tax base.¹⁸ There is also research to indicate that a possible (weak) relationship exists between FDI as

¹⁷ Dewan, S., Genley, D. and Kraemer, K., 'Across the Digital Divide: A Cross-Country Analysis of the Determinants of IT Penetration', PCIC, Graduate School of Management, University of California, Irvine, 2004, p. 19. Available at: www.pcic.gsm.uci.edu, accessed January 2006.

¹⁸ Addison, T. and Mavrotas, G., 'Foreign Direct Investment, Innovative Sources of Development Finance and Domestic Resource Mobilization, Global Economic Agenda', Helsinki Process on Globalization and Democracy, 2004, p. 5. Available at: http://www.helsinki.fi/netcomm/ImgLib/24/89/hp_track2_addison_mavrotas.pdf, accessed December 2005.

a share of GDP and gross fixed capital formation, indicating that FDI may increase investment in host countries.¹⁹

To help reduce the Digital Divide, Dewan et al. also argue for policy-makers in DCs and LDCs to reduce tariffs and taxes on IT products and services, encourage deregulation of telecommunication services and accelerate the pace of technology transfer from technology-exporting countries.²⁰ Although they acknowledge that future research would involve expanding the data set to allow for coverage of emerging countries that were underrepresented in their study, they argue that factors such as human capital and the size of the trade sector are having a stronger impact on encouraging internet use in DCs than they did with previous technologies: 'If internet use is the most important marker we have to date of the Digital Divide, as many currently believe, then this is the opportunity that developing countries have been waiting for to catch up to their more advanced neighbours'.²¹

In discussing ICTs and Development, Soeftestad and Sein describe the trustee relationship between developed and developing countries:

... to become developed, poor countries need to emulate the developed countries. In turn, the developed countries have the moral duty to help poorer countries achieve this growth. This creates a trusteeship relationship between the two worlds. Many developed countries, including the OECD collectively, take this seriously and in good conscience.²²

ICTs can be viewed as a commodity and by 'successfully leveraging their low-cost producer advantage over the developed countries, developing nations can earn foreign exchange by manufacturing computer and related products, through performing high-skilled jobs (eg., offshore software development) and even low skilled jobs (eg., offshore data entry and data processing functions'.²³ However, Soeftestad and Sein also describe the danger of this utopian concept in that the poorer countries often end up manufacturing products and even organising their economies solely to benefit the richer (developed) countries.

¹⁹ UNCTAD, 'World Investment Report, 2003', UNCTAD/WIR/2003, UNCTAD, Geneva, p. 77.

²⁰ Supra note 17, p. 21.

²¹ Ibid.

²² Soeftestad, L., and Sein, M., 'ICT and Development: East is East and West is West and Twain may yet Meet', in *The Digital Challenge: Information Technology in the Development Context* (eds Krishna, S. and Madon, S.), Ashgate, 2003, p. 64 citing Nustad, K., 'Development: The Devil we Know?' *Third World Quarterly*, 22, 2001, pp. 479–90.

²³ Ibid.

Offshore computing and manufacturing ICT commodities are done mainly to feed the consumerism of the richer nations, and not for the developing countries. The rise in such 'global' ICT industries hardly indicates transfer of technology and more importantly, transfer of knowledge. In this context, ICTs result in helping richer countries advance further, while the poorer countries remain poor.²⁴

UNCTAD's *Trade and Development Report* (2005) warns of the dangers of developing countries placing too greater reliance on developed country markets, arguing instead for a greater need to generate *South–South* trade.²⁵ UNCTAD puts forward three reasons for this: (1) sluggish growth in developed countries and their continued trade barriers to products of export interest to developing countries (mainly primary commodities and manufactures); (2) the vast size of rapidly developing Asian economies such as India and China reduces the need for developing countries to seek developed country markets to benefit from economies of scale; and (3) continued dependence on developed country markets exposes developing countries 'to possible pressures that link better access to those markets with binding commitments to rapid trade and financial liberalization, protection of intellectual property and open-door policy for FDI'.²⁶ Clearly as the Asian tigers continue to industrialise and China and India continue to make gains in their respective manufactures and services industries respectively, the argument for increased South–South trade is a strong one.²⁷ For example, trade in ICT goods among developing countries is increasing substantially according to UNCTAD, with trade in electronic components now representing over 50% of all South–South ICT goods exports.²⁸ Balanced against this is the continuing uncertainty of the effects of the large US account trade deficit, particularly with China, and the potential trickle-down effects (reflecting the increased economic global interdependence of the world) of any revaluation of the Chinese Renminbi.²⁹

Soeftestad and Sein propose a different view of ICTs and development to that of either the optimists or the pessimists, who are seen as being at polar ends of the spectrum. They suggest a 'middle path', where development is

²⁴ Ibid.

²⁵ UNCTAD, *Trade and Development Report*, 2005, p. 154.

²⁶ Ibid.

²⁷ See for example the recent ASEAN Economic Partnership Agreement between China and ASEAN for a free trade zone by 2010. Japan has also significant interest in ASEAN together with countries, such as Singapore. ASEAN has also signed a Framework Agreement with India in 2003.

²⁸ UNCTAD, *Information Economy Report*, 2005 (previously E-Commerce and Development Report), p. xviii.

²⁹ For a more complete discussion of the effects of the US Trade Deficit and a discussion on South–South trade, which is outside the scope of this book, see UNCTAD's *Trade and Development Report*, 2005, particularly chapters I and IV.

conceptualised through the perspectives of both *human development* and *alternative development* paradigms. The human development paradigm is influenced by Amartya Sen's work on capacities and entitlements and is centred on the understanding that national development is the enlargement of people's *choices*. These choices are the choice of healthy life, the choice to be educated and the choice to a decent standard of living.³⁰ The Human Development paradigm therefore stresses non-economic factors over economic or growth factors. A key failing of the paradigm, however, is that it fails to take into account who should be responsible for achieving the indices.³¹ The second paradigm, the alternative development paradigm, is again people-centred and development is achieved through civil society, including local participation, initiation and leadership of development efforts. In summary, human development provides the means to measure socio-economic development, but alternative development utilises political freedom and citizen participation. In this sense, 'ICT then becomes a means of communication'.³² Soefftestad and Sein source their ideas from the Appropriate Technology (AT) movement, which supports the development and use of sustainable approaches to meeting human and ecological needs through the appropriate use of technology. In turn, AT has its sources in Schumacher's concept of 'small is beautiful'.³³ 'To be appropriate, technology must be connected to the place, resources, economics, culture, and impact of its use'.³⁴ In short, effective ICT in development requires a human and cultural-centred approach.

The Jamaica study results reviewed in Chapter 10 (Section 10.3, 'ICTs and Development') reflect Soefftestad and Sein's view of appropriate technology. For example, the author found that ICTs could not be introduced into a community with the expectation that the community will immediately adopt them. Also, the use of small-scale pilot projects to help inform later and larger projects was very useful. However, all the successful ICT projects in Jamaica including music, educational learning, e-government, agriculture, improving business efficiency have had at their core one important principle: the need first to identify the local demand and satisfy that local demand before building out complicated IT systems. ICTs needed to be understood in the context of everyday life, and the success of the take-up of ICTs depended on how readily the technical people could satisfy the local demand for service.

³⁰ Soefftestad and Sein, *supra* note 21, p. 68. See also Sen, A., *Development as Freedom*, Oxford University Press, 1999.

³¹ *Ibid.*

³² *Ibid.*, p. 69.

³³ Schumacher, E.F., *Small is Beautiful. Economics As if People Mattered*, ABACUS, 1974.

³⁴ Soefftestad and Sein, *supra* note 22, p. 70.

Furthermore, development assistance need not be restricted to NGOs or purely government-funded projects. Sometimes funding through government organs could lead to a lack of efficiency at best or outright corruption at worst. And yet a small amount of technical assistance provided directly to well-thought-through commercial pilot programs could lead to dramatic improvements in working practices for small businesses nationwide. Clearly IEL can be used to accelerate the process of development in DCs and LDCs through technological processes (technology transfer). How then can DCs and LDCs use IEL to bring about more effective technology transfer? Possible solutions to this question are discussed in Chapters 8 and 10.

Chapter 8 discusses the Doha Ministerial Declaration introduced for the first time in the WTO, a binding mandate for WTO Members to examine the relationship between trade and technology transfer. As this chapter has discussed, there are a number of provisions within the WTO covered agreements that can be enforced to ensure that the international process of technology transfer can be better achieved, for example Articles 7, 31, 40, 65 and 66 of the TRIPS Agreement. However, as Roffe and Tesfachew have argued, there has perhaps been too much concentration of analysis on the imperfections of the international technology transfer process and not enough on the domestic absorptive and adaptation capacity of the host country.³⁵ If DCs and LDCs are truly to benefit from technology transfer, more attention has to be paid to improving host country legislation on technology transfer in terms of making it more effective in attracting foreign investment, creating spillover and also in dealing with potential abuses of market power by MNCs.

A possible solution would be to implement effective competition law measures. Abbott argues that the ‘promotion of technology transfer through competition policy involves assuring that technical information appropriately enters the public domain (i.e., private appropriation of technology should not impose unreasonable social welfare costs), preventing and correcting market-related abuses, and assuring that granting of patents and other IPRs are accomplished in a measured way’.³⁶

However, DCs and LDCs often do not have the resources to put in place the legislation and infrastructure required for effective competition authorities in the absence of funding, for example through the World Bank or WTO. Although external consultants can be funded to draft the necessary competition

³⁵ Roffe P., and Tesfachew, T., ‘Revisiting the Technology Transfer Debate: Lessons for the New WTO Working Group’, at <http://www.ictsd.org>, accessed October 2004.

³⁶ Abbott, F., ‘The Competition Provisions in the TRIPS Agreement: Implications for Technology Transfer’, Joint WIPO-WTO Workshop Intellectual Property Rights and Transfer of Technology, November 2003, p. 2.

legislation, for example through the World Bank, recruiting local skilled personnel to enforce the new legislation is another matter. Furthermore, World Bank funding might be conditional on any competition legislation introduced also providing for effective remedies that challenge national incumbents over abuse of a dominant position/anti-competitive effects by domestic competitors (challenges coming from foreign entrants licensed in the host state). This could be perceived as a potential attack on state enterprises (unless some of the protections, for example on protecting operators providing SGEI as mentioned in Chapter 7, are already implemented into national law). Furthermore, the TRIPS Agreement itself contains provisions on competition law to restrict IP rights holders from abusing their monopoly rights. For example, Article 8(2) permits Member States to enact provisions to prevent practices by the rights holder that adversely affect international technology transfer and Article 40 sets out the anti-competitive practices in technology transfer agreements that could restrict competition. Perhaps what is required is a mix of both sector-specific (*ex-ante*) measures that set out basic rules on technology transfer in advance, for example in the setting of price controls and compulsory licensing by government, as well as general competition type (*ex-post*) provisions which deal with issues of discrimination, transparency and unfair competition.

There are dangers in the enforcement by LDCs and DCs of measures of this type. Enforcement of host country competition provisions on MNCs, for example, could result in threats of trade and/or financial retaliation by developed country governments. To avoid the risk of this kind of retaliation, LDCs and DCs could make better use of regional trade or economic area agreements, where a common set of rules (both *ex-ante* and *ex-post*) for technology transfer could be adopted and integrated into the framework of a regional agreement.³⁷ For example, to help maintain a level of consistency of regulatory treatment amongst European NRAs, the EC has included clauses at Articles 6 and 7 Framework Directive which require NRAs to consult with the EC in introducing measures which would have a significant effect on the European internal market.³⁸ In a similar way, by harmonising competition provisions within the framework of a regional trade agreement, LDCs/DCs could have a better chance of enforcing such provisions against MNCs at a national level.

³⁷ Utilising for example sections of UNCTAD's draft Code on Transfer of Technology and also provisions on Science and Technology, and Competition from the OECD's Guidelines for MNCs. See also UNCTAD's excellent *Chapter of International Arrangements on Transfer of Technology: Selected Instruments*, UNCTAD/ITE/IPC/Misc5, 2001, which contains a detailed analysis of a number of technology transfer clauses used in IIAs/BITs.

³⁸ Directive 2002/21/EC.

The competition schedule/chapter/section of a regional trade agreement could provide for the creation of a regional competition advisory body with regulatory powers that could supply resources and skills to member governments, which all parties to the regional agreement could help fund, minimising the expense for a country in creating its own extensive infrastructure. Given the proliferation of regional trade agreements in recent years, consensus between regional trade partners with similar trade interests may be easier to achieve than creating a competition agreement or compact at the level of the WTO. As Balasubramanyam and Elliott argue: 'The WTO is often dismissed as an inappropriate forum, simply because its mandate is restricted to trade and not investment, and whilst the organisation can parley with the governments of member countries on trade issues, it cannot negotiate with MNEs which are privately-owned'.³⁹ Although to some extent, the WTO's Dispute Settlement Body decision in the *Mexico-Telmex* case has shown how the WTO can impact private undertakings and state monopolies.

DCs and LDCs could also benefit from increased access to information on technology transfer made available in the public domain. As discussed in Chapter 8, perhaps one of the most influential advocates of the public domain has been Lawrence Lessig of Stanford University. Lessig, together with colleagues from Harvard's Berkman Center for Internet and Society, has pioneered the concept of the *Creative Commons*, which seeks to use *copyleft* licensing to encourage rights holders to place their work in the public domain.⁴⁰

³⁹ Balasubramanyam, N.V. and Elliott, C., Chapter 13, 'Competition Policy and the WTO' in *The WTO and Developing Countries*, (eds Katrak, H., and Strange, R.) Palgrave Macmillan, 2004, p. 306. However, the authors generally conclude that the WTO may be an appropriate body to take responsibility for future multilateral competition policy developments, p. 311.

⁴⁰ To see the *Creative Commons Deed* and for more information on copyleft licensing see the Creative Commons website at: <http://creativecommons.org/>, accessed October 2004. The Free Software Foundation has developed a standard copyright agreement, the GNU General Public Licence (GPL), that is often called 'copyleft', which seeks to replace traditional copyright. The GPL attempts to deter programmers from closing the source code of a FOSS computer program and prevent the program from being developed in a proprietary environment. The GPL needs to be distinguished from the licences (based on the Open Source Definition) produced by the Open Source Initiative (OSI), another open-source movement founded in 1998. While the GPL requires any redistribution of GPL software to be released under a GPL licence only (to stop the code being closed off), licences based on the OSI's Open Source Definition allow redistribution under the same terms, but do not require it. In other words, programmers can take OSI software and go on to release modified software under new terms that include making it proprietary. As such OSI has become very attractive to industry giants such as IBM and Oracle. For a more detailed discussion of Open Source, see the excellent chapter in UNCTAD's *E-Commerce and Development Report*, 2003 (chapter 4: 'Free and Open-Source Software: Implications for ICT Policy and Development').

Clearly, as more innovators in the developed world seek to use copyleft licensing and vehicles such as the Creative Commons, more producers in the LDCs and DCs stand to gain, subject of course to *their* continued use of the copyleft mantra in terms of derivative works produced. A very good example of this is the *Free and Open-Source Software* (FOSS) movement and GNU/Linux.

In Africa, a number of regions have already collaborated on FOSS, launching the Free and Open Source Software Foundation for Africa (FOSSFA), which seeks to promote the use of FOSS throughout the region.⁴¹ 'FOSSFA anticipates that FOSS will provide opportunities to develop local programmes built by Africans for use in Africa'.⁴² Perhaps it is only through regional organisations, such as FOSSFA, that funds can be mobilised and channelled and links made with educational institutions, whereby educators can be trained to help young people across the region to 'learn, use, maintain, and modify software'.⁴³

11.2.3 Third Question

The *third (and last) question* asks whether it is possible to define a relationship in IEL between civil and political, economic, social and cultural rights as a collective, for example in the form of the much-debated and somewhat controversial *Right to Development* (the 'RTD' as defined in this book) on the one hand, and the Digital Divide on the other? And if such a link does exist, how can the RTD be enforced to help address the Digital Divide?

The first part of the question has already been addressed in Chapter 2 and discussed in Chapter 10. In Chapter 2, the author reviewed research that indicates a direct link between the enforcement of civil and political rights, and ESCR and the Digital Divide. For example, Arquette finds that the Digital Divide parallels the gap in economic and human development.⁴⁴ Kiiski and Pohjola look at a range of variables including income per capita, telephone access costs and the *average years of schooling*, and also the five-year growth rate of internet hosts.⁴⁵ Guillen and Suarez use a range of policy variables

⁴¹ UNCTAD, *E-Commerce and Development Report*, 2003, p. 116.

⁴² *Ibid.*

⁴³ *Ibid.* For a detailed case study on the use of ICT in development, see the case study on Jamaica written by the author, 'Readiness for the Networked World: Jamaica Assessment', at: <http://cyber.law.harvard.edu/home/2002-01>, accessed October 2004.

⁴⁴ Arquette, T.J., 'Social Discourse, Scientific Method, and the Digital Divide: Using the Information Intelligence Quotient (IIQ) to Generate a Multi-Layered Empirical Analysis of Digital Division', Northwestern University.

⁴⁵ Kiiski, S., and Pohjola, M., 'Cross-country Diffusion of the Internet', United Nations University, World Institute for Development Economic Research, 2001.

including a *democracy index*.⁴⁶ Norris examines the dispersion of internet use by grouping information on internet use in over 100 countries into a ‘New Media Index’ and comparing it with an ‘Old Media Index’ that indicates the level of penetration of radio, newspaper readership and television sets in each country.⁴⁷ This research is discussed in more detail in Chapter 2. We can see in the results of such research the link between the enforcement of civil and political rights, and ESCR, and addressing the Digital Divide. If we take this research to indicate that such a link can be said to exist (thereby answering the first part of Question (iii)) then the critical question becomes *how* to enforce these human rights so as to address the Digital Divide (the second part of Question (iii)).

We saw in Chapter 10 that the RTD can be envisaged as a *composite* right, including the whole gamut of rights (civil and political rights, and ESCR) including the right to education and a right to share in scientific and cultural knowledge (discussed in Section 10.5 ‘Enforcing the RTD through International Economic Law’). Whether the RTD can be classed as a composite right is an assumption that, although forcibly argued by the UN Independent Expert to the RTD, Arjun Sengupta, still remains an assumption. The author has not in this book deliberated on the advantages and/or disadvantages of a rights-based approach to development as opposed to adoption of the RTD, but has assumed that the RTD can be classed as a composite right. The author asserts that by enforcing the RTD, DCs and LDCs will be in a better position to improve their basic living standards at home, and so improve their human capital base. In enforcing the RTD through economic law, the author is attempting to bring justifiability to the RTD. The author asserts that one way of achieving this is to establish a link between the RTD and indicators of economic growth, such as FDI and GDP. The historical background to the RTD is given in Section 10.2.3 (Outline Background to the Right To Development).

Another assumption of this book is that effectively growing GDP and FDI will help to enforce the RTD, which in turn will stimulate technology transfer, innovation and the narrowing of the Digital Divide, effectively generating a ‘positive feedback’ loop. In Section 10.5.1, the author sets out a new *Right to Development Theory* to prove the link between the RTD, FDI and GDP. He does this through developing the legal theory and also with the use of symbolic equations. *Equation 5* shows in a purely *symbolic* way the potential relationship

⁴⁶ Guillen, M.F., and Suarez, S.L., ‘Developing the Internet: Entrepreneurship and Public Policy in Ireland, Singapore, Argentina, and Spain’, *Telecommunications Policy*, 25(3–4), pp. 349–71.

⁴⁷ Norris, P., ‘The Global Divide: Information Poverty and Internet Access Worldwide’, Internet Conference at the International Political Science World Congress, Quebec City, 2000.

between the RTD, expressed by the symbol R_D , and foreign direct investment (FDI).⁴⁸ It also shows the potential relationship between the RTD and domestic investment, domestic labour productivity and the growth rate of exports.⁴⁹ The significance of the symbolic Equation 5 is in linking the RTD with economic factors promoting growth (GDP), such as FDI. All of these factors can be measured and enforced through domestic economic law in the target state. Although Equation 5 would appear to address the second part of Question (iii), the author recognises that further empirical research, which is beyond the scope of this book, will be required to prove the validity of the equation. The author makes reference to various studies that prove the equations from which Equation 5 is derived,⁵⁰ but, at this stage, Equation 5 remains purely symbolic.

In making reference to indicators such as FDI and GDP, the RTD Theory is clearly based on a concept of *economic growth* and the *New Growth Theory* (NGT) model (see Chapter 10), economic growth being an ideological position favoured by the United States and very much reflected in the US Bush Administration's MCA for example. The need for economic growth is also a major foundation of the UK's Commission for Africa and the International Finance Facility.⁵¹ The UK Commission suggests that a range of growth policies including 'robust competition laws and policies, with strong institutions to enforce them, are vital to improving productivity and to promoting innovation and better prices'.⁵² The relationship between FDI and GDP described above illustrates a certain kind of thinking in economics known as NGT, which, as the author describes in Chapter 10, takes as its central focus the growth of technological knowledge and its diffusion and absorption. NGT views innovation and imitation efforts that respond to economic incentives as major engines of growth. Fan, however, suggests a more cautionary approach to FDI.⁵³

⁴⁸ This equation in no way represents a statistical/mathematically defined relationship but seeks to demonstrate symbolically that such a relationship might exist. Equation 5 *extends* the Independent Expert's own symbolic vector representing the RTD (set out in Section 10.5.1.7) by making the link with FDI, and indirectly with technology transfer as a component of FDI. Clearly more empirical research is required to test the equation and to find an appropriate statistically defined relationship.

⁴⁹ Measurements, which the author argues can be made, and variables which can be enforced in domestic frameworks of economic law.

⁵⁰ See Section 10.5.1.7.

⁵¹ See Section 10.4.2.

⁵² *Our Common Interest: Report of the Commission for Africa*, Commission for Africa, March 2005, para 41.

⁵³ Fan, E.X., 'Technology Spillovers from Foreign Direct Investment – A Survey', Asian Development Bank, ERD Working Paper No. 33, December 2002, pp. 26–7. See Section 10.5.1.5 [Linking the RTD with economic growth (GDP and FDI)].

The need for this continuing approach is necessary given the other negative effects of FDI, including for example the *crowding out* of local businesses as a result of foreign entry. Dine discusses a number of negative consequences including citing a study by Borenszstein, De Gregorio and Lee showing that FDI only benefits countries that have average male schooling above one year of secondary education. Below that and FDI has a negative effect.⁵⁴ Furthermore, in many low-income countries, FDI is not sought for technology transfer but for the employment of low-skilled workers (mostly in low-technology manufacturing activities) and for foreign exchange.⁵⁵ In some cases, the need to attract FDI may result in the lowering of regulations relating to health and employment in the target state, particularly in dedicated 'Export Zones', where in the manufacturing sector materials may be imported by FDI firms, assembled and then exported with little or no use being made of local inputs other than labour. As Dine argues, 'If this is coupled with the tax concessions given to the companies to locate their plants in the country it can be seen that the development benefits from this strategy are negligible'.⁵⁶

In examining FDI, specifically technology transfer *processes* and their relationship to spillover in the target market, further research is required. Assuming that such research, for example in large magnets for FDI like China and India, is forthcoming, the question then remains how DCs and LDCs can be assisted in achieving Equation 5, in growing GDP, and how the developed countries can help. In Chapter 10, the author suggests that this can in part be achieved through the RTD-Development Compact (RTD-DC), which involves a combination of obligations on both developed and developing countries and has been proposed by the Independent Expert on the Right to Development. The author reviews the Independent Expert's model of the RTD-DC and suggests a possible framework for how it could work (Section 10.6).

As set out in Chapter 10, the RTD has faced stiff opposition from the United States from the start and also suffers from a lack of justiciability. To overcome these problems, the author argues that as regards the developed countries, their obligations under the RTD-DC could be to put in place an RTD Tax Relief to honour current commitments on ODA, and in the long term, to honour existing commitments under WTO law, such as Article 66.2 TRIPS on technology transfer and technical assistance, and already agreed provisions on special and differential treatment for DCs and LDCs. Enforcement could also be achieved, as argued in Section 10.7, through technology transfer provisions as part of the *Aid For Trade* (AfT) programme, coordinated by the WTO and WB.

⁵⁴ See Dine, J., *Companies, International Trade and Human Rights*, Cambridge University Press, 2005, p. 24.

⁵⁵ Ibid.

⁵⁶ Ibid.

However the development compact requires reciprocal obligations by developing countries. As to the other side of the development compact, therefore, obligations on DCs and LDCs would be in developing national development policies that have the RTD as their very foundation; putting in place effective IPR regimes to facilitate technology transfer and FDI, and competition frameworks to check any imbalance of IPRs;⁵⁷ conducting more research at a national level, with the help of the international community, to examine the relationship between FDI, technology transfer, local spillover and its implications for development. The author appreciates that adopting Western-style IPR and competition regimes would be in line with both the 'Modernisation' and 'Law and Development' schools of thought so lambasted by Gordon and Sylvester, and reviewed in Chapter 10,⁵⁸ but the author also emphasises NGT as the basis of growing GDP, with FDI and technology transfer playing a crucial role. As mentioned above, *new growth* models emphasise the role of R&D, human capital accumulation and externalities.⁵⁹ Under the NGT model, the social rate of return to investment must also exceed the private rate of return. Only in this way can the RTD-DC be achieved with equity and justice. Otherwise, to create a regulatory regime that would only foster the private market with no social return and with no emphasis on human rights (as Marks argues is the danger of the US MCA) will not lead to the kind of development we see emphasised in the *human development* and *alternative development* paradigms as described by Soeftestad and Sein.⁶⁰ In addition, under NGT, knowledge spillover must contribute to growth in the aggregate. Clearly there are dangers with regard to FDI, as mentioned earlier. Balasubramanyam, in particular, talks of the need for a favourable economic climate to exist in the target state in order to prevent FDI becoming counter-productive.⁶¹ The author asserts that the crucial step for DCs and LDCs then is creating a balanced favourable economic climate in which FDI can operate but also to create a policy regime whereby any technology transferred through FDI is *beneficial* (Chapter 8). The solution to this very much lies with IEL and is borne out by the response to Question (ii) above.

Significantly, the RTD, which is concerned with the vector of human rights to which the Independent Expert refers, *also* seeks to integrate growth theory,

⁵⁷ Ibid.

⁵⁸ See Section 10.2.

⁵⁹ Balasubramanyam, V.N., Salisu, M., and Sapsford, D., 'Foreign Direct Investment and Growth in EP and IS Countries', *The Economic Journal*, 106(434) (January 1996), pp. 92–105, p. 94.

⁶⁰ See Section 10.3 (ICTs and Development).

⁶¹ See Balasubramanyam and Elliott, *supra* note 39.

the important difference with the US position being that equity should not be sacrificed for growth.⁶² The RTD Theory suggested by the author seeks to integrate new growth theory (in line with the school of ‘Modernisation’), but with equity and justice. As such, the author argues that the RTD Theory might be a workable compromise between the US’s MCA and the RTD favoured by the Like-Minded Group. The author argues that putting in place an effective regulatory domestic framework for FDI that will help realise the RTD by way of technology transfer *processes*, together with enforcing fundamental human rights such as the right to education, health, access to food, and freedom of information that form part of the composite RTD in the target state, will help a DC and/or LDC to address the Digital Divide. The research reviewed in Chapter 2 bears this out. For example, in a panel of 105 countries, Beilock and Dimitrova analyse the impact of GNP, measures of civil liberties and infrastructure and regional variables on internet use on IT penetration or diffusion, finding that the most important factor is GNP, although increasing civil liberties also have a significant impact.⁶³

As mentioned, Kiiski and Pohjola’s research including the variable of the *average years of schooling*,⁶⁴ and Quibria’s separate analysis of 100 countries during 1999 confirm that IT investment is tightly related to income measures and human capital.⁶⁵ Again, these findings indicate that DCs and LDCs, by focusing on effective education programs for their nationals (possibly as part of the enforcement of a general RTD package, which will include the right to education—discussed more fully in Chapter 10), might positively impact the penetration and diffusion of IT in their countries. This finding is also supported by the author’s own research as part of the Internet Costs and CSEED studies referred to in Chapter 10 (ICTs and Development).

In looking at ICT and internet penetration, Guillen and Suarez conclude that public policy should look at general conditions supporting entrepreneurship and not just telecommunications policy. This again is an important finding indicating possibly that other legislative measures such as on competition policy, venture fund capital, and policies that stimulate local small business activity could have an impact on entrepreneurship aside from telecommunications policy. Also, by taking as a variable a democracy index, we see again a connection (and mentioned above), albeit indirectly with the enforcement of

⁶² See Section 10.5.

⁶³ Beilock, R., and Dimitrova, D.V., ‘An Exploratory Model of Inter-country Internet Diffusion’, *Telecommunications Policy*, 27(3–4), 2003, pp. 237–52.

⁶⁴ Kiiski and Pohjola, *supra* note 45.

⁶⁵ Pohjola, M., ‘The Adoption and Diffusion of ICT Across Countries: Patterns and Determinants’, in *The New Economy Handbook* (ed. Jones, D.C.), Academic Press, 2003.

civil and political rights, and economic, cultural and social rights, effectively the full gambit of rights as found under the umbrella of the RTD for example and internet penetration.

This book has not discussed the use of the courts in enforcing civil and political rights, and ESCR. In both India and South Africa, the supreme courts have developed legislative precedents for the enforcement of individual economic and social rights, such as a right to education and a right to decent housing. Western nations have been far more reticent in using the courts to enforce ESCR, seeing such rights as being issues for the legislature and executive to determine as a matter of public and economic policy. By contrast in both the US and Europe, civil and political rights have been protected through the courts. Ghai and Cottrell⁶⁶ discuss the role of judges in implementing ESCR. They conclude that the courts should only intervene in enforcing ESCR when the state has blatantly failed to do so and that enforcement of ESCR should remain part of a political process (and not necessarily a judicial one). Governments have responsibility and are accountable, the courts less so.

If the enforcement of ESRC is to remain principally part of the government's role as a matter of efficient determination of allocation of resources, the author argues that there is a clear need for governments, particularly DCs and LDCs who receive aid as part of UN involvement through UNCTAD, the WTO, World Bank etc., to integrate the RTD-DC Compact as part of their national development strategies. This requires a considerable degree of coordination between different ministries of the beneficiary nation, but also between the ministries and multilateral donors. In calling for country ownership, the WB's *Community Development Framework* (CDF) discussed in Section 10.2.2, attempts to achieve just such a greater level of coordination. Only in this way, when reviewing a development project which utilises ICTs for example, can both civil and political rights and ESCR be truly integrated. As An-Na'im succinctly states:

... the rights in both purported categories are indivisible and interdependent, collectively as well as individually, simply because they are all essential for the wellbeing and dignity of every person as a whole being. For example, freedom of expression will be the prerogative of the privileged few without a right to education that enables all people to benefit from that freedom. Conversely, a right to education is not meaningful unless a person has also the freedom to create knowledge and exchange information. Neither of these rights is practically useful for a person who lacks shelter or health care.⁶⁷

⁶⁶ Ghai, Y. and Cottrell, J., *Economic, Social and Cultural Rights in Practice*, Interights, 2004.

⁶⁷ An-Na'im, A., 'To Affirm the Full Human Rights Standing of Economic, Social & Cultural Rights' in *Economic, Social & Cultural Rights in Practice: The Role of Judges in Implementing Economic, Social and Cultural Rights* (eds Ghai, Yash and Cottrell, Jill), Interights, 2004, p. 12.

Technology has a way of integrating the different civil and political rights and ESCR of end-users in the most complex ways. The question is how to maximise use of the technology so as not to violate any one of the separate individual rights. The author argues that generating real technology *spillover*,⁶⁸ which will help to realise the RTD in the target state, will require balancing foreign investor intellectual property rights (IPR) protection with the use of competition law and potential WTO surveillance to check on misuse of MNC market power on the one hand, while incentivising the international business community to invest in beneficial technology transfer to the target state on the other.⁶⁹ To achieve the latter, the Author puts forward a recommendation for introducing a *Right to Development Tax Relief*. The idea of tax relief for companies that licence technology to developing countries has already been suggested by the *Commission on Intellectual Property* (CIPR) in its report on intellectual property and development.⁷⁰ The author develops this idea further in formulating the RTD Tax Relief which he suggests could operate in investor states and be administered jointly through the investor state's international development department and/or tax revenue department, and that would apply to any nationally registered MNC under the relevant Company Act legislation in the investor state.

As we saw in Chapter 10 (Section 10.7), in proposing the RTD Theory, the author is not arguing for the WTO to directly enforce human rights or for a rights-based reading of WTO law (the latter more directly suggested by Petersmann). In effect the author's argument is more in line with that of Cass, looking for the organs of the WTO, such as the WGTT, to place developmental concerns at the heart of its thinking (see Cass's view on *trading democracy* discussed in Section 10.7). The author has also looked briefly at alternative arguments posed by Leader in seeing a civic role for the WGTT and has also queried whether it is *fair* in IEL for the WTO (WGTT) to act on behalf of DCs and LDCs in helping to achieve the RTD Tax Relief in the light of Franck's *discourse on fairness*.⁷¹ Whichever rationale is used for arguing for a role for the WGTT, the end result would be for the WGTT to agree effective criteria and indices (discussed above in Section 10.5.1.5) for technology transfer that would then allow, in the sense of providing WTO Members with the necessary information, most notably the Quad countries, to implement national legislation that would bring the RTD Tax Relief to life (subject to State Aid concerns), thereby indirectly enforcing the RTD. The United States and a number of other developed

⁶⁸ Discussed in Section 8.3.4 above.

⁶⁹ See also Chapter 8 on technology transfer and Chapter 9 on bilateralism.

⁷⁰ Chapter 1, 'Intellectual Property and Development', 2002 at http://www.iprcommission.org/papers/text/final_report/chapter1.htmf, accessed February 2005, p. 16.

⁷¹ Franck, M.T., *Fairness in International Law and Institutions*, Oxford University Press, 1995.

countries have been opposed to the RTD from the very start, unable to agree a legal right of development that could give rise to an obligation to transfer funds from the developed to the developing world. There may be principles of natural justice, such as espoused by Rawls, Franck, and Thomas Pogge involving the concepts of distributive justice and fairness that would support such a transfer, but a legal obligation is quite another matter. By pursuing principles of justice one might be able to do away with the need for a 'Right To Development' altogether, the latter considered by some to be far too embroiled in rhetoric and a lack of justiciability. And yet the advantage in looking at development through the lens of the RTD is that it encompasses all human rights, both civil and political rights and ESCR, and does not sacrifice any *one* right in growing another. The RTD encourages a *holistic* view of the development project and encourages 'connected thinking' amongst not only the development agencies, but also between different departments of the host state's government, whether trade, education, or health.

The United States is in favour of market-based solutions and economic growth. The author has tried in this book to demonstrate that the RTD Theory he espouses is in fact based on foundations in IEL. The theory is a compromise between that of the 'plain vanilla' RTD as envisaged by the Like Minded Group and the Quad countries, which see economic growth as the foundation for development, but not necessarily with the protection and enforcement of human rights as the focus.

The UN has already tried in the past to agree a Code on Technology Transfer that failed due to an inability for developed and developing countries to (mainly) agree sections within the draft Code on restrictive practices, dispute settlement and arbitration. The author is not calling for a similar instrument here, but for the WGTT to agree a set of indices and criteria that developed nations could use as a form of a 'means test' to grant tax relief to MNCs registered in the developed countries that offer beneficial technology transfer to DCs and LDCs. There is no reason why a similar tax relief could not also be offered by countries, such as Korea, Taiwan, Singapore, China and India, where MNCs in these countries are also beginning to be sources of FDI to producers in neighbouring DCs and LDCs. As such, the RTD Tax Relief need not necessarily be driven solely by the West. In this way developing countries could come to rely less on developed country markets and generate instead greater *South-South* trade, reducing the traditional reliance on the fickle primary commodities markets and manufactures.

The RTD Tax Relief is simply a means of incentivising the international business community to be more directly involved in transferring appropriate technology and know-how that would facilitate DC and LDC governments to enforce civil and political, economic, cultural and social rights within their respective host states. For example, refrigeration truck technology that would help deliver food in safe and healthy conditions; water purification technology

to deliver clean drinking water; on-line educational material and technology that would facilitate access to learning in rural villages; technology for x-rays and on-line access to information on disease and birth control etc. Given however the restriction placed on subsidies by the WTO's Agreement on Subsidies and Countervailing Measures, any subsidy related to transfer of technology can only apply to services (in the form of technology processes and technical assistance) rather than actual goods (see Section 10.5.1.5). Nevertheless, all these technology processes are linked to helping maintain basic human rights. Furthermore, as part of the RTD development compact, DCs and LDCs will also need to put in place IPR and competition regimes, and provisions on FDI. If such countries are serious in addressing the Digital Divide, then DCs and LDCs will also need to adopt the recommendations set out in Chapter 7 of this book in adopting a revised Reference Paper on telecommunications, increased market access commitments in information technology, and commitments on clusters of services that facilitate network-based transactions.⁷² As mentioned in Chapter 7, DCs and LDCs will also need to consider adopting Services of General Economic Interest (SGEI) for their incumbent operators in order to protect them from too fierce foreign competition too early.

11.3 CONCLUDING THOUGHTS

There is little doubt that competition for the world's resources is constantly increasing with the growth in the world's population. Furthermore the implications for the world of global warming and dimming are also becoming well understood with available land mass and access to clean water for the poorest people potentially shrinking, with consequent implications for mass migration. Effective development policy as applied to DC/LDCs will need to become a priority for the developed world, but simple aid is not going to work; business processes are required. We need to find a way to enforce the RTD both at the domestic (target state) level and at the international (investor state) level. As argued in this book, the use of technology and IEL is just one solution to help DCs and LDCs help address the Digital Divide and through enforcement of the RTD. The author asserts that such an approach is extremely relevant for DCs and LDCs, given that the policy options for DCs and LDCs to control their micro-economic policies are becoming increasingly limited, partly as a result of signing FTAs and bilateral agreements with developed countries,⁷³ but also as a

⁷² Discussed in Chapter 7. See also recommendations for IPRs and e-commerce in Chapters 8 and 9 respectively.

⁷³ See Chapter 9.

consequence of the WTO covered agreements. There is in effect a loss of *sovereignty*. Time has slowly eroded the concept of a state's sovereignty to act. Just under a century ago, the concept of sovereignty seemed very different, something stronger. Judge Max Huber said in the *Island of Palmas Arbitration*: 'Sovereignty in the relations between States signifies independence. Independence in regard to a portion of the globe is the right to exercise therein, to the exclusion of any other State, the functions of a State'.⁷⁴ Franck also talks of:

The impossibility of reconciling the notions of sovereignty which prevailed even as recently as fifty or sixty years ago with the contemporary state of global interdependence signals the profound transformation of international law which has occurred during the second half of this century. To describe this transformation is to point to a concomitant opportunity and challenge: not only to assess the extent to which international law has modified sovereign state behaviour, but also to examine critically whether this advance represents genuine progress, and how 'progress' is to be measured.⁷⁵

Clearly DCs and LDCs may argue that progress has not been made. For example, in the past, many developed countries have used, during their various phases of development, various aspects of IEL, a combination of tariffs, quotas and sector-specific subsidies to develop their domestic industries. Some developing countries that are now newly industrialised nations 'protected the home markets to raise profits, implemented generous subsidies, encouraged their firms to reverse engineer foreign patented products, and improved performance requirements such as export–import balance requirements and domestic content requirements on foreign investors (when foreign companies were allowed in)'.⁷⁶ All of these strategies are now severely restricted under current WTO agreements.

And yet there are still available options. In showing the relationship between economic variables and the RTD in Equation 5, the author is suggesting that for DCs and LDCs to truly *grow* their GDP, and hence provide a strong foundation for the RTD to take off, these countries will need to put in place effective IPR and competition regimes that will facilitate FDI. The Layering Theory, introduced in Chapter 5 and applied to DCs and LDCs in Chapter 7, also seeks to use principles of IEL, specifically trade and competition law, to help achieve greater transparency and access in world (and national) communications markets. At the national level in DCs and LDCs, there is a certain

⁷⁴ RIAA 11, 838, cited in Franck, *supra* note 74, p. 4.

⁷⁵ Franck, *supra* note 74, p. 4.

⁷⁶ E/CN.4/2003/WG.18/2 at para 25, citing Dani Rodrik. 'The Global Governance of Trade as if Development Really Mattered', JFK School of Government, Harvard University, July 2001.

and understandable reluctance to introduce competition frameworks as many DC and LDC governments fear their national monopolies will come under attack. For this reason alone, the author also argues that any new competition framework that is introduced at the national level should not only include adequate safeguards against excessive use of IPRs by MNCs, but also include a level of protection/exemption for state monopolies under the law, where for example, certain target state monopolies have duties given to them by the national government to provide *services of a general economic interest*.⁷⁷ The author also argues that by implementing effective IPR and competition regimes we can also help to *enforce* the RTD,⁷⁸ by making effective use of FDI and technology transfer. However, the author notes caution that DCs and LDCs will also need to measure the costs of implementing more rigorous IPR regimes as it is by no means certain that increased IPR protection yields greater benefits in terms of FDI. For example, as argued in Chapter 8, developing countries who have acceded to the WTO, and who have therefore accepted the TRIPS in full, will have to adopt certain minimum standards in patent (and other IPR rights) protection and enforcement as set out in Section 5 TRIPS (patents). For example, the minimum duration for a patent as set out in Article 33 TRIPS Agreement is a period of 20 years from the filing date. Some developing countries have argued that this term of protection is not particularly conducive to easy or quick transfer of technology.⁷⁹ In these countries, imitation will become harder as foreign patents are enforced, which will likely slow innovation, although the flip-side is that as licensees, developing country producers could also benefit from a strong patent system in that it would provide a degree of protection in the licensee's market as well as forestalling

⁷⁷ For example as found in the jurisprudence of the European Union under Article 86 of the EC Treaty. For many years, telecommunication monopolies in Europe enjoyed certain freedoms as a consequence of having to provide SGEI, such as universal service obligations. To some extent, the same argument can still be extended to public service broadcasters. SGEI is discussed in outline in Chapter 8, but a detailed discussion of state monopolies and Article 86(2) and 86(3) EC Treaty is outside the scope of this book.

⁷⁸ In his seminal paper, 'The Right to Development as a Human Right', the Independent Expert discusses the difficulties of enforcing the RTD: 'The right to development when it is accepted as a human right through a legitimate process of consensus building, therefore, becomes a primary claim on resources of a country – when resources are taken in the broadest sense as being whatever instrument that is necessary to realize certain objectives – physical, financial, or institutional. It also entails a legitimate right of reprimanding the parties which have the obligation to deliver the counterpart to the holders of the rights. For a national government, this can be executed through a judicial process of compensation or reparation . . . Internationally such reprimand has taken the form of sanctions or international pressures.' p. 8.

⁷⁹ WT/WGTTT/W/6, p. 2 (para. ii).

competition to some extent. As mentioned above, the value of increasing IPR protection in the target (developing country) state to attract FDI will need to be carefully assessed. In a recent study by Fink and Maskus (2004), the authors review a number of studies undertaken to gauge the link between the strength of IPR protection and the attraction of FDI inflows. They conclude that countries that strengthen their IPR regimes do not necessarily benefit from increased FDI.⁸⁰ Also, and as mentioned above, target state commitments under bilateral trade/investment agreements and FTAs will need to be considered.⁸¹ DCs and LDCs often grant increased IPR protection by way of such agreements to gain increased market access opportunities through preferential tariffs in specific markets, such as agricultural and manufactured goods, for example in the United States or in the EU. However, as a recent trade note from the World Bank makes clear, such preferential tariffs are *time-bound* in that they will be eroded once the US reduces remaining tariffs and quotas on a non-discriminatory basis in future trade rounds.⁸² In contrast, DC/LDC IPR commitments made in FTAs or bilateral agreements will *remain* in place, unless renegotiated by the parties concerned, which to some extent will depend on the bargaining positions of the parties concerned. Given the current position of LDCs/DCs as evidenced by the Doha Round negotiations, the situation does not seem very promising.

LDCs and DCs will also need to invest in research with appropriate international technical assistance from the UNDP, UNCTAD, WTO, World Bank, DFID etc., in measuring the effect of FDI on GDP in terms of local productivity, spillover, and growth in exports: the economic variables which are set out by the author in Equation 5. Perhaps what is required is not necessarily increased FDI, but *targeted* FDI in compliance with a country-level technology transfer measure, that has as its primary function the aim of generating increased spillover and absorption in the target market. To this end, the international community, the G-90, and the multilateral institutions, such as the WTO's Working Group on Trade and Transfer of Technology (WGTT), need to consult on appropriate technology transfer Criteria and Indicators, as discussed above, to achieve a workable RTD Tax Relief that could operate at the national level within developed countries.

The rationale for the WGTT becoming involved in setting policy that helps

⁸⁰ Finck, C., and Maskus, K., *Intellectual Property and Development: Lessons from Recent Economic Research*, World Bank and Oxford University Press, 2004.

⁸¹ And in more detail in Chapter 9 (Bilateralism).

⁸² Fink, C., and Reichenmiller, P., 'Tightening TRIPS: The Intellectual Property Provisions of Recent US Free Trade Agreements', Trade Note 20, World Bank, February 2005.

to achieve the RTD (effectively mixing trade with human rights) will depend to some extent on whether we have a *functional* or *civic* view of the WTO's power to act in this area, and specifically in determining the objectives of the WGTT. As mentioned earlier, the interface between trade and human rights is a very wide area and a full discussion is outside the scope of this book. However, in proposing a Right to Development Theory in Chapter 10, which seeks to enforce the RTD through economic law, the author is effectively bringing together principles of economic law (telecommunications, intellectual property, technology transfer) and human rights. As we saw in Section 10.7, there are problems with this approach.

Leader also captures the tension between the institutions that issue and enforce IEL and the conflict with human rights. For example, he looks at the interpretation of the WTO treaties and talks of either a *functional* approach or a *civic* approach to the use of the WTO's power. Leader describes the functionalist approach as one that relies on the special, and not the general, objectives of the institution (WTO) concerned as fixing that institution's appropriate responsibilities. Thus according to the functionalist view, he argues:

if it could be shown that opening markets to certain goods and services damages the prospects of certain local populations, the functionalist claims that this is not enough to attach the responsibility for those effects to the WTO. The proper concern of the organisation, from this perspective, is not to achieve comprehensive fairness, but only to achieve the limited sorts of fairness that its commitment to non-discrimination among goods and service providers involves.⁸³

By contrast, the civic view does not tie the WTO to its special objectives but anchors those objectives within wider concerns: '... consider the WTO rules that affect access to education or health, or affect the full range of labour rights. Based on the civic approach, if those effects are significant then the organisation [WTO] is responsible'.⁸⁴

It is this issue of *fairness* that is critical. We can ask whether it is fair in IEL for the WTO to act on behalf of DCs and LDCs in helping to achieve the RTD Tax Relief? For example, there already exists WTO precedents that address the inequality of the trading system, such as special and differential rights, and the *Enabling Clause* (Decision L/4903 dealing with differential and more favourable treatment reciprocity and fuller participation of developing countries under the GATT). In Section 10.4.5, looking at the role of institutions, the author discussed Franck's *Fairness Discourse*. In his seminal work on *Fairness*

⁸³ Leader, S., 'Trade and Human Rights II' in *The World Trade Organisation: Legal, Economic and Political Analysis*, (eds Macrory, Appleton, Plummer) Springer, 2005, pp. 663–96.

⁸⁴ *Ibid.*

in *International Law and Institutions*,⁸⁵ Franck argues that the fairness of international law will be judged first by the degree to which the rules satisfy the participants' expectations of justifiable distribution of costs and benefits, and secondly by the extent to which the rules are made and applied in accordance with what the participants perceive as right process.⁸⁶ Franck also discusses another core principle of fairness, the *Maximin* principle, which states:

that inequalities in the access to, or the distribution of, goods must be justifiable on the basis that the inequality has advantages not only for its beneficiaries but also, to a proportionate or greater degree, for everyone else. In other words, unequal distribution is justifiable only if it narrows, or does not widen, the existing inequality of persons' and/or states' entitlements.

In justification of the *Maximin* principle, Rawls argues: 'If there are inequalities in the basic structure that work to make everyone better off in comparison to the benchmark of initial equality, why not permit them?'⁸⁷ As we saw in Section 10.7 above, applying the *Maximin* principles to the operation of the RTD Tax Relief, we could then justify the sliding scale of tax relief given to developed country technology producers depending on whether they offer technology transfer to a DC or LDC, but also in introducing competition and IPR frameworks to attract FDI,⁸⁸ in agreeing to liberalise internet access, telecommunications, and other 'clusters' of services that would encourage network-based transactions,⁸⁹ and increasing commitments to a revised Reference Paper,⁹⁰ DC and LDC service providers are invariably going to face intense (and possibly unfair) competition that could lead to a certain extent to the *crowding out* of local operators.⁹¹ It may well be that some proponents of the NIEO will oppose the idea of a RTD Tax Relief, seeing it as a child of 'Western modernisation', and in accordance with the *Maximin* principle that fairness instead should consider only 'equalising outcomes'. This idea would argue that any tax relief given should be equal, or that competition should not crowd out local producers, regardless of the effect of such equalisation on a society's productivity and its capacity to compete.

The author argues that if we were to take either the civic approach to the

⁸⁵ Franck, *supra* note 74.

⁸⁶ *Ibid*, p. 7.

⁸⁷ Rawls J., 'The Law of Peoples', in *On Human Rights* (eds Shute, S. and Hurley, S.), (The Oxford Amnesty Lectures), HarperCollins, 1993, 41–82, cited in Franck, *supra* note 74, p. 18.

⁸⁸ See Section 8.7.

⁸⁹ See Section 7.5.

⁹⁰ See Section 7.2.

⁹¹ See Section 10.5.1.6.

WTO's power as described by Leader above or to apply Cass's view of trading democracy, or to apply Franck's Fairness Discourse, or even all three, then the WGTT as an organ of the WTO would have a wider responsibility to act to help achieve the RTD through FDI/technology transfer. Human rights activists and certain developing countries might prefer the Commission on Human Rights to lead the way, given that the Commission has to date taken a more favorable position on the RTD than many other UN agencies, but as borne out by responses to Questions (i)–(iii) above, if we are to use IEL to help enforce the RTD in target states, and address the Digital Divide between these states and the developed world, then those institutions (such as the WTO) that are directly responsible for the enforcement of IEL should have the primary role in acting. There is also the issue of resources: the Commission on Human Rights is well stretched. The UN 2005 World Summit reached agreement for the creation of a UN Human Rights Council, but it is unclear at the time of writing what the extent and scope of the powers that the Council is to have will be.⁹² In looking at other multilateral actors that have become involved in the area of technology transfer, the OECD's Guidelines for MNCs proposed in the last decade failed in this regard,⁹³ and it is clear that the international community has since moved on, in that there are vastly different technologies and actors now on the international stage.

Clearly for an RTD-DC to work, it also requires the international business community (MNCs) to become actively involved in the development process. This will only happen if MNCs have an *incentive* to become involved. The author argues that the RTD Tax Relief is one such incentive. In comparing the RTD Theory with that of the 'plain-vanilla' RTD proposed by Sengupta and backed by the Like-Minded Group, the author argues that the RTD Theory, following the school of New Growth Theory, will be more politically acceptable to powerful actors such as the United States and other developed countries, such as Japan and the Members of the EU who favour more open markets based on economic growth. However, in seeking also to incorporate the concepts of Alternative Technology and the Human Development and Alternative Development Paradigms in to the application of ICTs and Development in local

⁹² At the time of writing, the Human Rights Council has just come into existence through the adoption of UN General Assembly Resolution 60/251, 15 March 2006. In an interview with Ambassador De Alba (newly elected President of the Human Rights Council), Ambassador De Alba spoke of the need to 'strengthen the pact on Social, Economic and Cultural Rights through an optional protocol'. See *Human Rights Features* 19–25 June 2006, p. 2.

⁹³ *OECD's Guidelines for Multinational Enterprises* on requirements on MNCs to cooperate in the technology and science policy of the host country and prevent abusive practices (Sections VIII and IX respectively) at: <http://www.oecd.org/dataoecd/56/36/1922428.pdf>, accessed October 2004.

communities in the target state, the author also argues that the RTD Theory and RTD Tax Relief should also be more acceptable (politically) to the coalition of G-90 members and the Like-Minded Group (than for example the US MCA, which is controlled by a single US entity, the MCC, and has several selection indicators that would appear to be politically biased).⁹⁴ To what extent an RTD Tax Relief could form part of a developed country's existing ODA budget, or as a new form of aid (for example *Aid for Trade*, discussed in Chapter 10) remains to be debated. In theory, the RTD Tax Relief could constitute one of the *obligations* on the international community referred to by the Independent Expert as part of the RTD-Development Compact discussed above.

Whatever form it takes, the Digital Divide remains a huge issue in developing countries, particularly the LDCs. As discovered from the author's research involving ICTs in developing countries (CSEED study),⁹⁵ the Jamaica case study⁹⁶ and the Internet Costs study,⁹⁷ poverty is one reason for its existence.⁹⁸ As Marks cogently argues, the real task is 'overcoming obstacles in the way of transforming aspirations of the [RTD] Declaration into reality for the hundreds of millions of people for whom development remains an empty promise'.⁹⁹ Using the principles of IEL, this book suggests that the Digital Divide can be addressed so long as the political will exists. Does it?

⁹⁴ See Section 10.4.1 (The US Millennium Challenge Account).

⁹⁵ DFID report, 'Improving the Quality of Transition *in* Central and South Eastern Europe *through* Information and Communication Technologies' (hereafter 'ICT Report'), Kariyawasam, R., Lundy, P., Stewart, I., Souter, D., Swain, N., Milne, C., and Garthwaite, N., Antelope Consulting for Department for International Development's Central and South Eastern Europe Department, 2000, available on the internet at: http://www.antelope.org.uk/telecommunications_development/CSEED_report.pdf, accessed September 2005.

⁹⁶ Berkman Center (Harvard Law School) research report: 'Readiness for the Networked World: Jamaica Assessment' (hereafter 'Jamaica Report'), Kariyawasam, R., published on-line at <http://cyber.law.harvard.edu/home/2002-01>, vol 2002-01, pp. 1-65, Harvard Law School.

⁹⁷ DFID report by Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Kariyawasam, R., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A., 'Reducing the Costs for Internet Access in Developing Countries' (hereafter 'Internet Costs Study'). Report produced for Department for International Development, UK Government (2001), Antelope Consulting, 2001, published on the internet at: <http://www.wesra.com/cost1.htm>, accessed September 2005.

⁹⁸ Poverty is currently defined as depending on less than US\$1 a day. An alternative route for assessing the impact of integration [into the world economy] on the right to development could be by relating integration to the *indicators* on poverty. Given that poverty is a violation of human rights, indicators of poverty reduction may be used as indicators of the level of realization of the right to development.

⁹⁹ Marks, S., 'Obstacles to the Right To Development', Harvard University, 2003, p. 1.

Annex 1 A new reference paper for bits and bytes

DEFINITIONS

Users mean electronic communications network and service consumers and electronic communications network and service suppliers.

Major Supplier means ‘a supplier who either individually or jointly with others, enjoys a position equivalent to dominance for the relevant Component Part in a particular Layer (as set out in Schedule 1) in the supplier’s relevant geographic market, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers’.

Electronic Communications Networks means ‘transmission systems, and where applicable, switching or routing equipment and other resources which permit the conveyance of signals over any of the Layers as defined in Schedule I irrespective of the type of information conveyed’.

Electronic Communications Service means ‘a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, and whose Component Part(s) fall into any of the Layers as defined in Schedule I, but excluding services providing, or exercising editorial control over, content transmitted using electronic communications networks and services. An Electronic Communications Service may consist of one or several Component Parts.’

Component Part means ‘a physical or logical part of an Electronic Communications Service and which falls into one of the Layers as defined in Schedule I’.

Access means ‘the making available of facilities and/or services, to another undertaking, under defined conditions, on either an exclusive or non-exclusive basis for the purpose of providing electronic communications services’.

Interconnection means ‘the physical and logical linking of public electronic communications networks used by the same or a different undertaking in order to allow the users of one undertaking to communicate with users of the same or another undertaking, or to access electronic communications services provided by another undertaking. Electronic communications services may be provided by the parties involved or other parties who have access to the network. Interconnection is a specific type of access implemented between public network operators’.

1. COMPETITIVE SAFEGUARDS

1.1 Prevention of anti-competitive practices in telecommunications

Appropriate measures shall be maintained for the purpose of preventing suppliers who, alone or together, are a major supplier from engaging in or continuing anti-competitive practices.

1.2 Safeguards

The anti-competitive practices referred to above shall include in particular:

- (a) engaging in anti-competitive cross-subsidisation;
- (b) using information obtained from competitors with anti-competitive results; and
- (c) not making available to other services suppliers on a timely basis technical information on electronic communications networks and services and commercially relevant information which are necessary for them to provide electronic communications services.

2. INTERCONNECTION

2.1 This section applies to linking with suppliers providing public electronic communications networks and services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.

2.2 Interconnection and access to be ensured

2.2.1 Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided.

- (a) under non-discriminatory terms, conditions (including technical standards and specifications) and rates and of a quality no less favourable

- than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates;
- (b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and
 - (c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.

2.2.2 Access with a major supplier will be ensured at any technically feasible point in the network. A major supplier must meet all reasonable requests for access.

2.3 Public availability of the procedures for interconnection and/or access negotiations

The procedures applicable for interconnection and/or access to a major supplier will be made publicly available.

2.4 Transparency of interconnection arrangements

It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

2.5 Interconnection and access: dispute settlement

A service supplier requesting interconnection and/or with a major supplier will have recourse, either:

- (a) at any time or
- (b) after a reasonable period of time which has been made publicly known

to an independent domestic body, which may be a regulatory body as referred to in paragraph 5 below, to resolve disputes regarding appropriate terms, conditions and rates for interconnection and/or access within a reasonable period of time, to the extent that these have not been established previously.

3. UNIVERSAL SERVICE

Any Member has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and

competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member.

4. PUBLIC AVAILABILITY OF LICENSING CRITERIA

Where a licence is required, the following will be made publicly available:

- (a) all the licensing criteria and the period of time normally required to reach a decision concerning an application for a licence and
- (b) the terms and conditions of individual licences.

The reasons for the denial of a licence will be made known to the applicant upon request.

5. INDEPENDENT REGULATORS

The regulatory body is separate from, and not accountable to, any supplier of electronic communications networks and services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants.

6. ALLOCATION AND USE OF SCARCE RESOURCES

Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective, timely, transparent and non-discriminatory manner. The current state of allocated frequency bands will be made publicly available, but detailed identification of frequencies allocated for specific government uses is not required.

SCHEDULE 1

LAYER 4 CONTENT
LAYER 3 APPLICATIONS
LAYER 2 TRANSPORT
LAYER 1 ACCESS

Bibliography

WTO/Telecommunications/Digital Divide

- Arquette, T.J. (2002), 'Social Discourse, Scientific Method, and the Digital Divide: Using the Information Intelligence Quotient (IIQ) to Generate a Multi-Layered Empirical Analysis of Digital Division', Northwestern University.
- Beilock, R., and Dimitrova, D.V. (2003), 'An Exploratory Model of Inter-country Internet Diffusion', *Telecommunications Policy*, 27(3–4), p. 237–52.
- Bronckers, M., Larouche, P. (1997), 'Telecommunication Services and the WTO': *Journal of World Trade*, 31, 5–48.
- Chinn, M.D., and Fairlie, R.W. (2004), *The Determinants of the Global Digital Divide: A Cross-Country Analysis of Computer and Internet Penetration*, University of Wisconsin.
- Codding G.A. (1995), 'The International Telecommunications Union: 130 Years of Telecommunications Regulation', *Denver Journal of International Law and Policy*, 23, 501.
- Collins, H., Dixon, M., Garthwaite, N., Gillwald, A., Groves, T., Hunter, J., Jensen, M., Kariyawasam, R., Lucas, W., Milne, C., Unadkat, C., and Wirzenius, A. (2001), 'Reducing the Costs for Internet Access in Developing Countries', Report produced for Department for International Development, UK Government, Antelope Consulting, 2001, published on the internet at: <http://www.wesra.com/cost1.htm>.
- Cowhey, P., and Kilmenko, M. (2001), 'Implementing Telecommunications Liberalization in Developing Countries after the WTO Agreement on Basic Telecommunications Services', in (ed.), R. Stern *Services in the International Economy* University of Michigan Press, chapter 16.
- Dasgupta, S., Lall, S., and Wheeler, D. (2001), *Policy Reform, Economic Growth, and the Digital Divide: An Econometric Analysis*, Development Research Group, World Bank.
- Denton, T. (2002), 'Protocol Interfaces are the New Bottlenecks: What the Internet Means for Telecom Regulation', at <http://www.tmdenton.com/pub/presentations/bottlenecks.pdf>.
- Elkin-Koren, N. and Salzberger, M.E. (2004), Law, Economics and Cyberspace: the Effects of Cyberspace on the Economic Analysis of Law, Edward Elgar, p. 44.
- Fink, C., and Kenny, C.J. (2003), *W(h)ither the Digital Divide?* World Bank.

- Fredebeul-Krein, M., and Freytag, A. (1997), 'Telecommunications and WTO Discipline: An Assessment of the WTO Agreement on Telecommunication Services', *Telecommunications Policy*, No. 6, 477–91.
- Frieden, R. (2002), 'Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach', Penn State University.
- Guermazi, B. (2000), '*Exploring the Reference Paper on Regulatory Principles*', Center for the Study of Regulated Industries, McGill University, at <http://www.law.mcgill.ca/institutes/csri/paper-guermazi-reference.php3>.
- Guillen, M.F., and Suarez, S.L. (2001), 'Developing the Internet: Entrepreneurship and Public Policy in Ireland, Singapore, Argentina, and Spain', *Telecommunications Policy*, 25(3–4), p. 349–71.
- Hausman, J. (2001), 'Competition and Regulation for Internet-related Services: Results of Asymmetric Regulation', MIT, August.
- International Telecommunications Union (1997), 'Transforming Economic Relationships in International Telecommunications', Chairman's Report of the Seventh Regulatory Colloquium, Geneva, December.
- Kariyawasam, R. (2001), 'Interconnection and Access: Law and Precedent', in I. Walden and J. Angel (eds), *Telecommunications Law*, Blackstone Press.
- Kariyawasam, R. (2005), 'Defining Dominance for Bits & Bytes: A new Layering Theory for Significant Market Power?' *European Competition Law Review*, October.
- Kiiski, S., and Pohjola, M. (2001), 'Cross-country Diffusion of the Internet', United Nations University, World Institute for Development Economic Research.
- Kraemer, K.L and Dedrick, J. (2002), 'Information Technology in SouthEast Asia: Engine of Growth or Digital Divide?', in C.S. Yue and J. J. Lim (eds), *Information Technology in Asia: New Development Paradigms*, Institute of Southeast Asian Studies, Singapore.
- Lundy, P., Stewart, I., Souter, D., Swain, N., Milne, C., Garthwaite, N., and Kariyawasam, R. (2000), 'Improving the Quality of Transition in Central and South Eastern Europe through Information and Communication Technologies', Antelope Consulting for Department for International Development's Central and South Eastern Europe Department, available on the internet.
- Macintosh I. (2001), 'Ensuring Fair Access for ISPs: The Role of the WTO', at: <http://www.lawgazette.com.sg/2001-5/May01-focus2.htm>
- Marsden, P. (2004), 'WTO Decides its First Competition Case, with Disappointing Results', *Competition Law Insight*, May.
- Naftel, Mark, and Spiwak, Larry (2002), *The Telecoms Trade War*, Hart Publishing, chapter 5.

- Norris, P. (2000), 'The Global Divide: Information Poverty and Internet Access Worldwide', Internet Conference at the International Political Science World Congress, Quebec City.
- Organisation for Economic Cooperation and Development (OECD) (1995), 'The Changing Role of Telecommunications in the Economy: Globalisation and its Impact on National Telecommunications Policy', OCDE/GD(95)116, Paris.
- OECD (2000), Telecommunications Regulations: Institutional Structures and Responsibilities, DSTI/ICCP/TISP(99)15/FINAL, May.
- Pohjola, M. (2003), 'The Adoption and Diffusion of ICT Across Countries: Patterns and Determinants', D.C. Jones (ed.), California: Academic Press.
- Quibria, G.M., Ahmed, S.N., Tschang, T., and Reyes-Macasaquit, M.L. (2003), 'Digital Divide: Determinants and Policies with Special Reference to Asia', *Journal of Asian Economics*, 13, 811–25.
- Smith, P., and Wellenius, B. (1999), 'Mitigating regulatory risk in telecommunications Public Policy for the Private Sector' Note No. 189, July, the World Bank.
- Soeftestad, L., and Sein, M. (2003), 'ICT and Development: East is East and West is West and Twain may yet Meet', in S. Krishna and S. Madon (eds), *The Digital Challenge: Information Technology in the Development Context*, London: Ashgate.
- Tuthill, L. (1996), 'Users' Rights? The multilateral rules on access to Telecommunications', *Telecommunications Policy*, 20(2), 89–99.
- Tuthill, L. (1997), 'The GATS and New Rules for Regulators', *Telecommunications Policy* 21(9/10), 783–98.
- Wallsten, S. (2003), *Regulation and internet use in developing countries*, AEI and Brookings Institution, Washington.
- Werbach, K. (2002), 'A Layered Model for Internet Policy, The Regulation of Information Platforms', *Journal of Telecommunications and High Technology Law*.
- Wong, P.K. (2002), 'ICT Production and Diffusion in Asia: Digital Dividends or Digital Divide?' *Information Economics and Policy* 14(2), 167–87.
- WTO Secretariat (2001) *Guide to the GATS: An Overview of Issues for Further Liberalization of Trade in Services*, Kluwer International, chapter 20 (Telecommunication Services).
- Wunsch-Vincent, S. and McIntosh, J. (2004), 'WTO, E-Commerce, and Information Technologies: From the Uruguay Round through the Doha Development Agenda', Report, Markle Foundation.

Classification of Electronic Services and Goods

- Baker, S., Lichtenbaum, P., Shenk, M., and Yeo, M. (2001), *International Lawyer*, 'E-products and the WTO', 35(5).

- Choi, D.W. (2000), 'WTO and Electronic Commerce: The Case of the General Agreement on Trade in Services (GATS), at <http://www.berlecon.de/services/en/iew2/papers/choi.pdf>.
- Civilka, (1999), 'Digital Products: Goods or Services?', Vilnius University Law Faculty at: http://www.itc.tf.vu.lt/doc/mokslas/skaitmenines_pranesimas_angl.pdf.
- Ogoti, A., and Shah, A. (2000), 'E-ntering the WTO Paradigm', at: http://www.nishithdesai.com/eco-times/archives/e-ntering_the_wto_paradigm.htm.
- 'Preparations for the 1999 Ministerial Conference, Work Programme on E-Commerce, Communication from the European Communities and their Member States', WTO Doc. WT/GC/W/306, available http://docsonline.wto.org/gen_search.asp.
- Shuknecht, L. and Perez-Esteve, R. (1999), 'A Quantitative Assessment of Electronic Commerce', WTO.
- Hill, Peter (1999), 'Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output', *Canadian Journal of Economics*, 32(2).
- Tinawi, Emad, and Berkey, Judson O. (1999) 'E-services and the WTO: The Adequacy of the GATS Classification Framework', OECD Forum on E-Commerce, at: <http://www.oecd.org/dataoecd/12/60/2092597.pdf>.
- 'Work Programme on E-Commerce, Submission by the US' WTO Doc. WT/GC/16, available at http://docsonline.wto.org/gen_search.asp.

WTO/E-commerce/TRIPS

- Bains, Singh Manavinder (2002–3), 'Software, Sovereignty and the Internet: Circumventing Chaos through TRIPS', *Columbia Science and Technology Law Review*, 4, 3.
- Balasubramanyam, N.V., and Elliott, C. (2004), (eds) H. Katrak and R. Strange *Competition Policy and the WTO in The WTO and Developing Countries*, Palgrave Macmillan, chapter 13.
- Berkey, Judson O. (2001), *A Framework Agreement for Electronic Commerce Regulation under the GATS*, Institute of International Finance, December.
- Berkey, Judson, and Tinawi, Emad (1999), 'E-Services and the WTO: the Adequacy of the GATS Classification Framework'. OECD.
- Borga, M. and Zeile, W.J. (2003), 'International Fragmentation of Production and the Intrafirm Trade of US Multinational Companies, Bureau of Economic Analysis Working Paper, WP 2004–02.
- Drake W. and Nicolaidis K. (2000), 'Global Electronic Commerce and GATS: The Millennium Round and Beyond', in (eds), Pierre Sauve and Robert M. Stern, *GATS 2000 New Directions in Services Trade Liberalisation* Brookings Institute.

- Hauser, H., and Wunsch-Vincent, S. (2000/2001), 'A Call for a WTO E-Commerce Initiative', by, *International Journal of Communications Law and Policy Issues*, 6, Winter.
- Mattoo, A. and Schuknecht, L. (2000), 'Trade Policies for Electronic Commerce', World Bank Policy Research Working Paper No. 2380.
- Mattoo, A., and Wunsch, S. (2004), 'Preempting Protectionism in Services: The GATS and Outsourcing', World Bank/Institute for International Economics, 2004 at <http://www.iie.com/publications/papers/wunsch0204.pdf>.
- Mie, Alain-Louis, and Mathieu, G. (2001), 'The Place of the Internet and E-commerce in Multilateral Negotiations' at: http://droit-internet-2001.univ-paris1.fr/pdf/ve/Mie_Guennec_ve.pdf.
- Piazolo, Daniel (2001), 'Multilateral and European Responses to e-commerce', *European Integration Online Papers (EIoP)*, 5(4), May.
- Nichols, P. (2000), 'Electronic Uncertainty within the International Trade Regime', 15 *American University International Review*, 1379.
- OECD (2001), 'Electronic Commerce: A Cluster Approach to the Negotiations of Input Services', OECD TD/TC/WP(2000)33/FINAL, June.
- OECD (2001), 'Trade Policy Implications of the New Economy: Preliminary Thoughts', OECD TD/TC(2000)13/FINAL, July.
- OECD (2003), 'Intellectual Property Rights in the New Economy: Technological Changes and the Protection of Intellectual Property Rights', OECD TD/TC/WP(2002)53/FINAL, April.
- Wunsch-Vincent, S. (2003), 'The Digital Trade Agenda of the U.S.: Parallel Tracks of Bilateral, Regional and Multilateral Liberalization', *Aussenwirtschaft*, 58(1), March.

Developing Countries

- Accuosto, P., and Johnson, N. (2004), 'Financing the Information Society in the South: A Global Public Goods Perspective', Association for Progressive Communications, June, at http://www.choike.org/documentos/johnson_accuosto.pdf.
- Archibugi, D. and Pietrobelli, C. (2002), 'The Globalisation of Technology and its Implications for Developing Countries. Windows of Opportunity or Further Burden?', Center for International Development, Harvard University at http://www.cid.harvard.edu/cidbiotech/events/archibugi_pietrobelli_280202.pdf.
- Engni, D.V. (2001), 'Issues on the Relationship between E-Commerce and Intellectual Property Rights in the WTO: Implications for Developing Countries', South Centre, September.
- Fink, Carsten, Mattoo, Aaditya and Rathindran, Randeep (2001), 'Liberalizing

- Basic Telecommunications: The Asian Experience,' World Bank, WRP 2718.
- Goldstein, Andrea, and O'Connor, David (2000), 'E-Commerce for Development: Prospects and Policy Issues', Organization for Economic Cooperation and Development, September.
- ITU (1999), 'Partial Draft of the Report of the Focus Group on Promotion of Infrastructure and Use of the Internet in Developing Countries', Study Report document 1077/E at <http://www.apectelwg.org/apecdata/telwg/ICAIS/ProInfrI.pdf>.
- Josephberg, K., Lange, D., and Victoriano, J. (2003), 'WTO Members Approve TRIPS Extension for Developing Countries', Intellectual Property and Technology Law Journal, 20, February.
- Likosky, M.B. (2005), *Privatising Development: Transnational Law, Infrastructure and Human Rights*, Martinus Nijhoff Publishers.
- Mann, C. (2000), 'Electronic Commerce in Developing Countries: Issues for Domestic Policy and WTO Negotiations', Institute for International Economics, March, at <http://www.iie.com/publications/wp/2000/00-3.pdf>.
- Mann, C. (2000), 'Government and Development: Closing the Digital Divide', in Eckerr, S.E. and Knight, S.C. (eds), *Global Electronic Commerce: A Policy Primer*, Chapter 9, at: http://www.iie.com/publications/chapters_preview/318/9iie2741.pdf.
- Mann, C. (2000), 'Government in the International Area', in Eckerr, S.E. and Knight, S.C. (eds), *Global Electronic Commerce: A Policy Primer*, Chapter 8, at: http://www.iie.com/publications/chapters_preview/318/8iie2741.pdf.
- Panagariya, A. (1999), 'E-Commerce, WTO, and Developing Countries', at <http://www.bsos.umd.edu/econ/panagariya/apecon/Policy%20Papers/e-commerce-3.pdf>.
- Singh, A. Didar (1999), 'Electronic Commerce: Issues for the South', South Centre, October.
- Sen, A. (1999), *Development As Freedom*, Oxford University Press.
- Teltscher, S. (2000), 'Tariffs, Taxes and Electronic Commerce: Revenue Implications for Developing Countries', United Nations Conference on Trade and Development, October.
- Tully L. Danielle (2003), 'Prospects for Progress: the TRIPS Agreement and Developing Countries after the Doha Conference', *Boston College International and Comparative Law Review*, 26, 129, Winter.
- Wattanapruttipaisan, T. (2004), 'Intellectual Property Rights and Enterprise Development: Some Policy Issues and Options in ASEAN', 11(1), June, at http://www.unescap.org/pdd/publications/apdj_11_1/wattanap.pdf.
- Wellenius, B. (1997), 'Telecommunications Reform – How to Succeed', Viewpoint Note No. 130, World Bank, October.

Technology Transfer

- Abbott, F. (2003), 'The Competition Provisions in the TRIPS Agreement: Implications for Technology Transfer', Joint WIPO-WTO Workshop Intellectual Property Rights and Transfer of Technology, November.
- Chen, E.K.Y. (1994), *Introduction: Transnational Corporations and Technology Transfer to Developing Countries*, The United Nations Library on Transactional Corporations, vol 18, Routledge.
- Contractor, F. (1980), 'The Composition of Licensing Fees and Arrangements as a Function of Economic Development of Technology Recipient Nations', *Journal of International Business Studies*.
- Correa, C. (1981), 'Transfer of Technology in Latin America: A Decade of Control', *Journal of World Trade Law*, 15(5), pp. 388–409.
- Correa, C. (2000), 'Emerging Trends: New Patterns of Technology Transfer', in Patel, S., Roffe, P. and Yusuf, A. (eds), *The International Transfer of Technology: The Origins and Aftermath of the United Nations Negotiations on a Draft Code of Conduct*, Kluwer Law International, The Hague, pp. 268–70.
- Correa, C. (2002), 'Implications of Intellectual Property Rights for the Access to and Use of Information Technologies in Developing Countries', The United Nations University, INTECH, at <http://www.intech.unu.edu/publications/discussion-papers/2000-2d.pdf>.
- Correa, C. (2005), 'Can the TRIPS Agreement Foster Technology Transfer to Developing Countries?', in K. Maskus and J. Reichman (eds), *International Public Goods and Transfer of Technology: Under a Globalized Intellectual Property Regime*, Cambridge University Press, pp. 236–7.
- Dewan, S., Genley, D. and Kraemer, K., 'Across the Digital Divide: A Cross-Country Analysis of the Determinants of IT Penetration', PCIC, Graduate School of Management, University of California, Irvine, 2004, p. 19. Available at: www.pcic.gsm.uci.edu, accessed January 2006.
- Hoekman, B., Ng, F., and Olarreaga, M. (2001), *Tariff Peaks in the Quad and Least Developed Country Exports*, World Bank, February.
- Kamal, S. (2000), *Trade, Foreign Direct Investment, and International Technology Transfer: A Survey*, World Bank.
- Kumar, N. (1997), *Technology Generation and Technology Transfers in the World Economy: Recent Trends and Implications for Developing Countries* Institute for New Technologies Discussion Paper: 2, Madstricht: United Nations University, pp. 10–11.
- Lall, S. (1978), 'Transnationals, Domestic Enterprises and Industrial Structure in LDCs: A Survey', *Oxford Economic Papers*, 30, 217–48.
- Maskus, K. (1998), 'The Role of Intellectual Property Rights in Encouraging

- Foreign Direct Investment and Technology Transfer', *Duke Journal Comparative and International Law*, 9, 109.
- Maskus, K. (2003), 'ICTSD-UNCTAD Dialogue, 2nd Bellagio Series on Development and Intellectual Property', September.
- Maskus, K. (2004), 'Encouraging International Technology Transfer', UNCTAD-ICTSD Project on IPRs and Sustainable Development, at <http://www.iprsonline.org/unctadictsd/projectoutputs.htm#policy>.
- Maskus, K., and Reichman, J. (eds) (2005), *International Public Goods and Transfer of Technology: Under a Globalized IP Regime*, Cambridge University Press.
- Muchlinski, P. (1999), *Multinational Enterprises and the Law*, Blackwell Publishers.
- Mytelka, L. (2002), Director INTECH, speech to the first session of the WTO Working Group on Trade and Transfer of Technology, WT/WGTTT/M/1, April.
- Ramachandran, V. (1993), 'Technology Transfer, Firm Ownership, and Investment in Human Capital', *Review of Economics and Statistics*, 75, 664–70.
- Smarzynska, K.B. (2002), 'Composition of Foreign Direct Investment and Protection of Intellectual Property Rights: Evidence from Transition Economies', The World Bank, at <http://ideas.repec.org/p/wbk/wbrwps/2786.html>.
- WTO papers:*
- WT/WGTTT/W/5
 - WT/WGTTT/W/6
 - WT/WGTI/W/136
 - WT/WGTI/W/65
 - WT/MIN(01)/DEC/1 (Doha Ministerial Declaration)
 - WT/COMTD/W/77
 - WT/L/579
 - WT/L/540
 - WT/GC/W/497
 - IP/C/W/398
- UNCTAD (2001), *Transfer of Technology Report*, UNCTAD/ITE/IIT/28.
- UNCTAD (2004), *Sao Paulo Consensus*, TDL/L30, June.
- Westphal, L. (2002), 'Technology Strategies for Economic Development', *Economics of Innovation and New Technology*, 11(4–5), August–October.

Development

- Ali-Saab, G. (1975), *The Right to Development at the International Level* The Hague: The Hague Academy of International Law.

- Anderman, S., and Kariyawasam, R. (2005), 'TRIPS and Bilateralism: Technology Transfer in a Development Perspective', *Human Rights and Capitalism*, Edward Elgar.
- Annex II WTO Agreement, Understanding of Rules and Procedures Governing the Settlement of Disputes.
- Balasubramanyam, V.N., Salisu, M., and Sapsford, D. (1996), 'Foreign Direct Investment and Growth in EP and IS Countries', *The Economic Journal*, 106(434), January, 92–105.
- Brewster, H. (2006), 'Challenges Faced by the Private Sector in Taking Advantage of the New Trading Opportunities under the International Trading System', March.
- Carsten, F., and Maskus, K. (2004), *Intellectual Property and Development: Lessons from Recent Economic Research*, World Bank and Oxford University Press.
- Case 173/73 *Commission v. Italy* [1974] ECR 709.
- Case C-39/94 *Syndicat Français de l'Express International (SFEI) v. La Poste* [1996] ECR I-2547.
- Cases C-278–280/92 *Spain v. Commission* [1994] ECR I-4103.
- Commission on Intellectual Property, Chapter 1, 'Intellectual Property and Development', 2002 at http://www.iprcommission.org/papers/text/final_report/chapter1.htmf, accessed February 2005.
- 'Considering Collective Rights, Group Rights and Peoples' Rights', at http://www.minorityrights.org/Legal/development/rtd_pt1_considering.pdf.
- Consideration of the Sixth Report of the Independent Expert on the Right to Development, E/CN.4/2004/WG.18/2, February 2004.
- Contractor, F. (1980), 'The Composition of Licensing Fees and Arrangements as a Function of Economic Development of Technology Recipient Nations', *Journal of International Business Studies*.
- Correa, C. (2000), *Intellectual Property Rights, the WTO and Developing Countries*, Zed Books.
- E/CN.4/2003/WG.18/2, Geneva 2003.
- E/CN.4/2004/WG.18/2, February 2004.
- Fifth Report of the Independent Expert on the Right to Development, Economic and Social Council, E/CN.4/2002/WG.18/6/Add.1, 31 December 2002.
- Fink, C., and Reichenmiller, P. (2005), 'Tightening TRIPS: The Intellectual Property Provisions of Recent US Free Trade Agreements', Trade Note 20, World Bank, February.
- Fan, E.X. (2002), 'Technology Spillovers from Foreign Direct Investment – A Survey', Asian Development Bank, ERD Working Paper No.33, December.
- Franck, M.T. (1995), *Fairness in International Law and Institutions*, Oxford University Press.

- Ghai, Y., and Cottrell, J. (eds) (2004), *Economic, Social & Cultural Rights in Practice: The Role of Judges in Implementing Economic, Social and Cultural Rights*, Interights.
- Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and public health (WT/L/540).
- Lall, S., and Albaladejo, A. (2001), 'Indicators of the Relative Importance of IPRs in Developing Countries', UNCTAD/ICTSD, Geneva, at <http://www.ictsd.org/unctad-icstd/docs/Lall2001.pdf>.
- Leader, S., 'Trade and Human Rights II', in *The World Trade Organisation: Legal Economic and Political Analysis* (eds Macrory, P.F., Appleton, A.E. and Plummer, M.G.), Springer, 2005, pp. 663–96.
- Liu, X., Parker, D., Vaiyda, K., and Wei, Y. (2000), 'The impact of Foreign Direct Investment on Labour Productivity in the Chinese Electronics Industry', Lancaster University Management School Working Paper, 2000/002.
- Jackson, J. 1989, *The World Trading System* MIT Press, pp. 21–2.
- Kokko, A. (1994), 'Technology, Market Characteristics, and Spillovers', *Journal of Development Economics*, 43, 279–93.
- Marks, S. (2001), 'The Human Rights Framework for Development: Five Approaches', Harvard School of Public Health.
- Marks, S. (2003), 'Obstacles to the Right To Development', Harvard University.
- Maskus, K. (1998), 'The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer', *Duke Journal of Comparative and International Law*, 109.
- OECD's Guidelines for Multinational Enterprises on requirements on MNCs to cooperate in the technology and science policy of the host country and prevent abusive practices (Sections VIII and IX respectively), at <http://www.oecd.org/dataoecd/56/36/1922428.pdf>, accessed October 2004.
- OFCOM's guidelines on handling competition complaints at http://www.ofcom.org.uk/consult/condocs/resp/eu_directives/guidelines.pdf.
- Oxfam International (2004), 'Finding a Way Forward in the Doha Development Round: Key Issues for LDC Trade', LDC Ministerial Meeting Dakar, 4–5 May.
- Ramachandran, V. (1993), 'Technology Transfer, Firm Ownership, and Investment in Human Capital', *Review of Economics and Statistics*, 75, 664–70.
- Rawls, J. (1998), *A Theory of Justice*, revised edition, Oxford University Press.
- Rehman, J. (2003), *International Human Rights Law: A Practical Approach*, Longman, p. 107.

- Rodrik, D. (2001), 'The Global Governance of Trade as if Development Really Mattered', JFK School of Government, Harvard University, July.
- Schmitthoff, C.M. (1966), 'The Concept of Economic Law in England' *Journal of Business Law*, 309.
- Sealy, L.S. and Hooley, R.J.A (2003), *Commercial Law, Text Cases and Materials*, third edition, Lexis/Nexis Butterworths.
- Sengupta, A. (2000), 'The Right to Development as a Human Right'.
- Sengupta, A. (2002), 'Fifth Report of the Independent Expert on the Right to Development', Economic and Social Council, Commission on Human Rights, open-ended working group on the right to development, E/CN.4/2002/WG.18/6, Geneva, September.
- The Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights, UN ECCOR. Res. Commission on Human Rights, 43rd Sess., Agenda Item 8, UN Doc. E/CN.4/1987/17Annex (1987).
- UNCTAD (2004), *World Investment Report*.
- Vienna Declaration and Programme of Action, adopted by the UN World Conference on Human Rights, A/CONF.157/23, 25 June 1993.
- WTO papers:
- IP/C/28
 - IP/C/W/398
 - WT/MIN(01)/17
 - WT/WGTI/W/65
 - WT/L/579
 - WT/COMTD/W/135, October 2004
 - WT/WGTTT/5
 - WT/WGTI/W/65

Index

- access bottlenecks 93, 168, 322
- accounting rates 44, 46, 49–54, 58, 76–7, 165, 170–71, 175
- accounting separation 177, 328
- advertising 64, 68, 70, 108, 121, 143–4, 153–4, 207–8
- Africa 22–3, 28, 169–70, 178, 186, 276
 - Africa Enterprise Challenge Fund 277
 - African Growth and Opportunity Act (2000) 245
 - Cotonou Partnership Agreement 264
 - FOSSFA 232, 337
 - G-8 Africa Action Plan 276
 - ICF (Investment Climate Facility) 276
 - ISPs 23, 176, 177, 328
 - NEPAD (New Partnership for Africa's Development) 218, 276
 - South Africa 23, 34, 178, 269, 343
 - Southern Africa 218, 236
 - UK Commission for Africa 276–80, 339
- Aid for Trade (AfT) programme 86, 314–16, 317, 341, 353
- Albania 36
- Alston, Philip 263, 308–10
- alternative development 11, 19, 30–32, 255, 266–7, 272–3, 277, 286–7, 294, 329, 333, 341, 352
- Alternative Development Paradigm 266–7, 277, 286–7, 294, 333, 341, 352
- Alternative Technology school 286, 330, 352
- ANCOM countries 215–16
- Andean Group 215
- antidumping 130–31
- Antigua and Barbuda, cross-border gambling 155–6, 157
- antitrust 88, 108, 227
- AOL/Time Warner COMP/M.1845* 11.10.2000 108
- Appropriate Technology (AT) movement 267, 270, 271, 283, 292, 294, 317–18, 322, 333
- Asia
 - FDI 202, 203, 298, 300
 - internet spread 22, 23, 28, 31
 - ISPs 84, 177, 178, 328
 - mandated cost-sharing 84
 - offshoring 197
 - Sarbanes-Oxley Act 257
 - South–South trade 190, 317, 332, 345
- Asia Pacific Economic Cooperation (APEC) 13, 45, 71, 84–6, 178–9
- Asian Development Bank 299
- Asynchronous Digital Subscriber Loop (ADSL) 103, 110
- AT&T 14, 21, 22, 100
- audiovisual services 64, 69, 120, 123, 154
- Australia 64, 84–5, 137, 142, 154, 178–9, 186, 263
 - US–Australia* FTA (2004) 236
- Balasubramanyam, V. 214, 229, 301–4, 336, 341
- Bananas* case (WT/DS27/R/USA) 126, 144, 153, 180
- Bhagwati, Jagdish 302
- bilateral investment treaties (BITs)
 - development implications 245–7, 279, 315
 - electronic intangibles 162
 - and FDI 63, 218, 234, 246
 - and intellectual property rights 234–51, 291
 - performance requirements 235–45
 - and regional arrangements 168, 247–9
 - and technology transfer 222–5
 - United States 64, 122, 235, 236, 239, 241, 249
- bits and bytes, new reference paper for 172, 354–7

- Brazil 203, 215, 225
 Bretton Woods institutions 252, 257
see also IMF; World Bank
 broadband 22, 24, 62, 89, 97, 108
 broadcasting systems 37, 68, 89
 pay-per-view 65, 97, 121, 132
 public 173
 radio 33, 72, 90, 153, 253, 338
 television 66, 72, 90, 128, 153
BT/Esat COMP/M.1838, 27.3.2000 108
 Build Operate Transfer (BOT)
 agreements 202, 298
 business process outsourcing (BPO) 69, 182
- cable systems 21, 23, 72, 88, 90, 97, 99, 108, 110, 147, 173
 Cambodia 34, 269
 Canada 26, 155, 161, 197, 198, 239, 248
 Canada – Certain Measures Concerning Periodicals WTO Doc. WT/DS31/AB/R (June 30, 1997) 143
 Cancun Ministerial Conference 61, 174, 220, 225, 236, 288
 APEC Principles 84–5, 178
 capital transfer 70, 236, 249
 Caribbean 23, 169–70, 216
 Cotonou Partnership Agreement 264
 see also individual countries
 cartels 79, 80, 180, 221
 see also Mexico-Telmex
 Cass, D. 310–11, 312, 313, 344
 Chile, *US–Chile* FTA (2003) 236
 China 24, 150, 178, 182, 190, 198, 219, 264, 332
 FDI 171, 203, 205, 300, 301, 305, 340, 345
 see also Hong Kong
 Chinese Taipei 69, 85, 203
 Choi, D.W. 126, 130
 circuit-switching 21, 53, 57, 63, 325
 see also packet-switching
 civil rights 253–4, 256, 261, 275, 305, 312, 333, 337, 341, 342, 343
 civil society 24, 185, 187, 259, 267, 286, 290, 306, 333
 collective dominance 110–11
 see also significant market power
 Colombia 85
 commercial presence 61, 69, 81, 135, 147, 156, 196, 250, 297
 Commonwealth Telecommunications Organisation (CTO) 35
 competition
 accounting rates *see* accounting rates
 anti-competitive practice 46, 75–6, 78–80, 84, 116, 180, 200, 214–17, 221, 226–7, 237, 289, 335, 355, 356–7
 definitions of 78
 developed countries' principles 64, 323
 developing countries 172–3, 217, 223, 226, 228, 293, 312, 334–5
 and digital divide 34–7
 gap 30
 and intellectual property rights 191, 214, 221, 281, 283, 289
 internet access providers 269
 lack of 26
 law, imposition of 4, 6, 283, 284, 293, 328, 334
 and layering theory 169, 323
 local business crowd-out 209, 299, 313, 314, 340, 351
 and major supplier 83
 and mandated cost-sharing 84
 and MNCs *see* multinationals
 and national treatment 128, 179, 181
 NCAs 9, 96
 and regional trade agreements 218, 228–9
 and reverse engineering 38, 207, 219
 safeguards 355
 in telecommunications 14, 43, 45, 52, 54–7, 61, 322
 WTO policy 61, 64, 73, 79, 80, 83–4, 85, 146–7, 229
 see also interconnection
 Comprehensive Development Framework (CDF) 258–80, 259, 343
 computer programs, legal protection of 207
 conditional access systems 65, 89
 consultancy 38, 145, 272
 consumer protection 64, 156, 157, 158
 consumption abroad 81, 118, 135–7, 147, 169, 323

- Conventions on Satellites 43
- copyleft licensing 230, 336–7
- copyright 103, 123, 204, 207, 243
- Correa, C. 194, 201, 215, 221
- corruption 272, 275, 290, 334
- Costa Rica 182
- Cotonou Partnership Agreement 264
- country ownership 259, 343
- Creative Commons 230, 232, 336–7
- cross-border supply 68, 76, 81, 119, 132, 136–7, 147, 155–7, 169, 323, 325–6
- cross-subsidisation 167, 176, 177, 327, 328
- Cuba 264
- cultural rights 33, 243, 251, 259, 261, 262–3, 290, 294, 309, 312, 322, 337
- customs duties
 - electronic intangibles 69, 70–71, 122, 123, 125–6, 132–5, 148, 150
 - WTO (World Trade Organization) 132–5, 150, 188–90, 197–8
 - see also* tariffs
- customs unions 63, 168

- debt rescheduling 261, 277
- Dell Computer* 121 FTC 616 (1996) 219
- democracy index 33, 253, 338, 342
 - Department for International 15–16, 253, 255
 - CSEED ICTs study 35–6, 328, 342, 353
 - Internet Costs Study 34–7, 176, 178, 269–70, 327–8, 353
- developed countries
 - and accounting rates 51, 52
 - competition principles 64, 323
 - digital spread 29
 - ICT and development 331
 - internet connection costs 86
 - IP protection standards 247
 - market access opportunities 70, 72
 - movement of natural persons 61, 81
 - tariff peaks 197, 198
 - trustee relationship with developing countries 265
 - see also* individual countries
- developing countries (DCs) and least developing countries (LDCs)
 - and accounting rates 51, 52, 54
 - benefitting richer nations 266, 332
 - ‘best business practices’ guidelines 48
 - bilateralism and intellectual property rights 63, 234–51, 291
 - cable services 173
 - competition 172–3, 217, 223, 226, 228, 293, 312, 334–5
 - complimentary services 67, 169, 171–2, 179–80, 321–2
 - digital divide 176, 273, 323, 327, 329–30, 342, 353
 - and e-commerce 123
 - education *see* education
 - electronic intangibles, classification of 181–2, 197–9, 324
 - electronic intangibles, customs duties 122, 123, 125–7, 132–5, 148, 150
 - environmentally sound technologies 201
 - EU services provision 168–9
 - FDI *see* FDI
 - free-trade area agreements *see* free-trade area agreements
 - GSP regimes 25, 244–5, 315
 - human rights *see* human rights
 - ICTs 182, 187, 190, 255, 268, 328–9, 331, 332
 - innovation 187, 200, 219, 324, 336–7
 - intellectual property rights 212–13, 242–5, 250, 289, 293–4, 297, 307, 341, 347
 - interconnection provisions 86, 169–70, 176, 186, 269
 - international development 252–318
 - international trade in services 173–4, 190–91
 - internet spread 19–24, 30–31, 167, 172, 178, 329, 331
 - ISPs in 82, 176, 177, 178, 179, 323 and ITU 46, 47, 49
 - ITU Recommendation D.50 172, 178–80, 185, 186
 - and layering theory 115–17, 168–75
 - local content requirements 70, 215
 - market access 174, 181–2, 198, 223, 277, 313, 315, 323, 325
 - MCA funds 274–5
 - monopolies in 167, 171, 172, 181
 - movement of natural persons 61

- developing countries (DCs) and least developing countries (LDCs)
 (cont.):
 national treatment 181, 223, 246, 313
 network-based transactions 68–9, 171, 181–2
 new modes of operation in reverse 175–8, 185, 272, 326, 329
 and outsourcing 196, 197
 packet-switched networks 171, 178–80, 186
 performance requirements 235
 poverty *see* poverty
 R&D expenditure 203, 213
 Reference Paper adoption 116, 168–75, 325
 regional and bilateral arrangements 247–9
 and RTD *see* RTD
 rules of origin 245
 semiconductor technology 219
 South–South trade 190, 332, 345
 sovereignty 12, 214, 246, 258–9, 260, 347
 special and differential (S&D) rights 25, 60–61, 173, 174, 288, 301, 326, 340, 350
 and Structural Adjustment Programs (SAPs) 258
 tariff rates 25, 188–9, 198, 201, 244, 331, 347
 technical standards assistance 177, 191, 219–20
 technology transfer *see* technology transfer
 telecommunications 25–6, 165–91
 telecommunications liberalisation 34–5, 37, 167, 172, 181–2, 269, 327, 328, 331
 trade barriers 70, 332
 trustee relationship with developed countries 265
 unemployment 167
 Western best practice and legal systems, imposition of 257
 wireless access 62
 and World Bank 257–8
 World Summit on the Information Society *see* World Summit on the Information Society
- see also* least developing countries (LDCs) for additional entries
- development theory
 development construction in practice 257–60
 and efficiency 272, 334
 evolution of 256–65
 ICT 187, 265–73, 329, 331
 lost decade 258
 modernisation, law and development 256–7, 267, 270, 272, 273, 279, 329, 341
 right to development *see* right to development theory
- digital divide
 access lines 27
 and Africa 186, 277
 alternative development 30–32
 civil and political rights 32–4, 253
 competition policy 34–7
 defining 18–39
 developing countries 176, 273, 323, 327, 329–30, 342, 353
 economic, social and cultural rights (ESCR) 32
 and education *see* education
 and ICT 24–8, 30–31, 277
 income levels 29, 31, 32, 34
 and innovation 24, 25–6, 37
 internet diffusion 26–8, 283, 330–31, 342
 IT penetration 28–30, 31, 32
 market-friendly policies 34
 positive feedback loop 254
 and right to development theory 254, 280, 282, 307, 321, 338, 350
 telecommunications network access 27, 29, 31, 33, 76
 telecommunications policy 34–7, 167–8
 World Summit on the Information Society *see* World Summit on the Information Society
- digital networks 7, 21, 59, 67
 layering theory *see* layering theory
 rights management technologies 122, 139, 241
- Digital Opportunity Index 188, 297, 305
- Digital Solidarity Fund (DSF) 185

- Digital Subscriber Loop (DSL) 62, 97, 103
- Doha Round trade negotiations
 e-commerce 160, 320
 failure of 57, 60, 62, 174–5, 190, 288, 311, 316, 349
 free-trade agreements 168, 224
 Implementing Decision 220, 288
 market access commitments 181, 182, 198, 234, 315
 Singapore Issues 236
 tariff reductions 189, 201
 technology transfer 220, 225–6
 TRIPS and Public Health 236–7, 241
 W/120 classification list 67
- domain name system 18, 184–5
- dominance *see* significant market power
- dual purpose technology 317
- e-commerce 28, 36, 64, 69, 121, 123, 125, 131, 189, 324
 United States 68–9, 120, 121, 128–9, 148–55
- economic development zones 217
- economic growth indicators 254, 258, 333
see also FDI; GDP
- Economic, Social and Cultural Rights (ESCR) 6–7, 9–10, 32–4, 253–4, 262, 304, 305, 337–8, 343–4, 345
see also civil rights; cultural rights; political rights
- economic survival gap 318
- education
 average years of schooling 253, 296, 337, 340, 342
 and digital divide 29, 32
 FDI and male schooling 299, 340
 gap 318
 and ICTs 5, 255, 266, 270, 277, 333
 Millennium Development Goals 274, 278, 311
 and RTD 281, 283, 291–4, 305, 346
 Egypt 23, 264
- electromagnetic compatibility 189
- electronic intangibles
 bilateral investment treaties (BITs) 162
 classification 65, 70–71, 118–62, 181–2, 197–9, 323–4
 classification concerns 119–22, 197–8
 classification in developing countries 181–2, 187–9, 323–4
 consumers and suppliers, distinction between 157–8
 content restrictions 120
 customs duties 69, 122, 123, 125–7, 132–5, 148, 150
 European Union 148–55, 160, 198
 geographic and non-geographic services 65
 goods classification 130, 131, 149
 goods and services, legal/economic rules for distinguishing between 69, 70–71, 140–45
 and intellectual property rights 123–4, 139, 142
 and layering theory 169
 legal framework, establishing 139–48
 licensing 130
 most favoured nation principles 125–7
 national treatment 128–9, 133
 progressive trade liberalisation principle 148
 quantitative restrictions 129–32
 supply modes 135–9
 taxation 121, 131
 technological neutrality 121, 134, 147–8
 trade neutrality principle 145–7
 United States 120, 128–9, 148–55, 161, 198
see also software
- entrepreneurship 31, 33, 253, 268, 274, 342
- environmental sustainability 201, 278, 311
- Equation 5 254, 282, 302–5, 338–40, 347, 349
- essential facilities doctrine 73–4, 77, 115, 116
- European Commission and Communities
 Access and Interconnection Directive 55, 91–3, 107, 168, 227, 323
 accession plans 36, 115
 aid budgets 15, 131–2, 279, 297
 AOL/Time Warner COMP/M.1845 11.10.2000 108
 Authorisation Directive 2002/20/EC 173

- European Commission and Communities
(*cont.*):
- Bananas* case (WT/DS27/R/USA)
126, 144, 153, 180
 - bilateral and unilateral preference
schemes 279
 - Brussels Regulation (Council
Regulation 44/2001) 138
 - BT/Esat* COMP/M.1838, 27.3.2000
108
 - Case COMP/C-3/37.792 88, 108
 - civil and political rights 342
 - collective dominance 110–11
 - Commission Notice 2004/C 101/02
(April 2004) (technology transfer)
209
 - Commission Regulation 772/2004
(April 2004) (technology transfer)
209, 217, 227
 - Commission Regulation (EC)
No.802/2004 April 2004 209
 - Commission v. Italy* [1974] ECR 709,
Case 173/73 15, 131, 295
 - Communication on VoIP OJ C369,
22.12.2000 59
 - Communications Review (1999) 89,
92
 - competition 22, 23, 79–80, 87, 89–91,
106–7, 166, 169, 218–19
 - competition for electronic
communications networks
Directive 2002/77/EC, OJ L249/21,
17.9.2002 90
 - concentrations, effects of 209, 279
 - Constitution for Europe 121, 154
 - Copyright Directive 243
 - Cotonou Partnership Agreement 264
 - Council Decision on semiconductor
products to persons from certain
territories (94/828/EC) 218
 - Council Directive 89/552/EEC (as
amended by Council Directive
97/36/EC) (Specific Commitments
Schedule) 120, 126, 128, 151, 154
 - Council Directive 91/250 on the Legal
Protection of Computer Programs
207
 - Council Directive 97/36/EC (Specific
Commitments Schedule) 120, 154
 - culture protection 154, 160
 - deregulation 166–7
 - Deutsche Telekom* (DT) decision
79–80
 - development policy 278, 279
 - Directive 2002/19/EC 55, 89, 107,
227,
 - DGIV Competition cases 79
 - e-commerce Directive (2000/31/EC)
127, 153
 - e-Europe initiative 22
 - EC Merger Regulation (EC) No.
139/2004 209
 - EC Treaty, Articles 49–51 169
 - EC Treaty, Article 86 37, 173, 214, 348
 - EC Treaty, Articles 87 and 88 15, 131,
295
 - EC Treaty, Articles 95 and 100 166
 - EC-Asbestos* 156
 - EC-Mexico FTA 243
 - electronic communications and
network services Directive
2002/20/EC OJ L108/21, 24.4.2002
89, 90, 114
 - electronic communications and
network services Directive
2002/21/EC 74, 89, 91, 104, 110,
114, 217, 227, 228, 335
 - electronic communications regulation
45, 58, 87–94, 104, 107, 110,
114–15, 173, 181, 218–19, 228–9,
335
 - electronic intangibles 120–21, 128,
148–55, 151–4, 160, 197–8
 - electronic networks and services
regulation 59, 130, 168, 217, 227
 - essential facilities doctrine 73–4
 - European Night Services* Decision
94/663, [1994] OJ L 259/20 74
 - Framework Directive 83, 89–90
 - Framework Directive, Annex II 92,
110
 - Framework Directive, Article 2 90
 - Framework Directive, Article 6 228
 - Framework Directive, Article 7 114,
228
 - Framework Directive, Article 12 93
 - Framework Directive, Article 14(2)
74, 91, 92, 217
 - Framework Directive, Article 15 104,
91

- Framework Directive, Article 15(1) 114
 Framework Directive, Article 15(2)
 115
 Framework Directive, Article 16 91
 Framework Directive, Recital 10 90
 GATS classification W/120 revision
 67–8
 goods and services, distinguishing
 between 151–5
 GSP schemes 244–5, 279
 human rights 311
 ICT use 36
IMS 214
 incumbent telcos 172, 173, 176, 260,
 325, 328
 intellectual property rights 243, 249
 Interconnection Directive 97/33
 (annulled) 91, 92
 internet access services 107–8,
 114–15
 internet spread 22–3, 53, 178, 184
Irish Sugar v. Commission (1999) 5
 CMLR 1300 110
 joint ventures 166
 leased line tariffs 22, 23, 92, 173
 Leased Lines Directive 92/44
 (annulled) 92
 licensing 92, 107, 168, 173
 Licensing Directive 97/13 (annulled)
 92
 local loop unbundling 22, 79–80, 93
Magill Joined cases C-241/91P and
 C-242/91P 74, 214
 market access 5, 146
 MFN tariffs 248
 Millennium Development Goals
 (MDGs) 278
 NCAs 9, 96
 New Framework (electronics
 communications) 89–94, 107, 110,
 114, 115, 116
 NRAs 8, 56, 96, 109–10, 114–15,
 168, 173, 228, 335
Olivetti/Mannemann/Infostrada 106
 Open Network Provision (ONP) 91–2
Oscar Bronner v. MediaPrint Case
 C-7/97 74, 83
 personal data and privacy protection
 Directive 2002/58/EC, OJ L201/37,
 31.7.2002 90
 Regional Trade Agreements (RTAs)
 224–5
 Revised Voice Telephony Directive
 98/10 (annulled) 92
 and RTD 263–4
 rules of origin 245
 Sarbanes-Oxley Act 257
Sea Containers v. Stena Sealink
 Commission decision OJ 1994 L
 15/18 74
 Semiconductor Directive 87/54/EEC
 218
 services provision 169
 SGEI 173–4, 312–13, 325–6, 346
 Significant Market Power (SMP) 74,
 83, 91–3, 95–6, 104, 109, 113, 217
Spain v. Commission [1994] ECR I-
 4103, Cases C-278–280/92 15,
 132, 296
 Specific Commitments Directive
 89/552/EEC 120, 126, 128, 151,
 154
 Specific Commitments Schedule 81,
 120, 154
 SSNIP test 104–5, 107
 State Aid Doctrine 131–2, 295–7
Syndicat Français de l'Express
 International (SFEI) v. La Poste
 [1996] ECR I-2547, Case C-39/94
 15, 131, 295
 tariff rates 198, 244–5
 technical standards Directive
 98/34/EC, OJ L204/37, 21.7.1998
 90
 technical standards Directive
 98/48/EC 90
 technological neutrality 59, 87, 90,
 147
 Technology Transfer Block
 Regulation EC 772/2004 209, 217,
 227
 telecommunications 36, 68, 166
 Television Without Frontiers Directive
 89/552/EEC 120, 126, 128, 151, 154
Telia/Telenor COMP/M.1439 108
Telia/Telenor/Schibsted Case
 NoIV/JV.1 27.05.1998 108
 trade neutrality principle 146
 Treaty of Rome, Article 81(1) 209,
 217

- European Commission and Communities
(*cont.*):
- Treaty of Rome, Article 82 74, 80, 209, 214
 - UGC/Liberty Media COMP/M.2222* 24.04.2001.1065.1998 108
 - United Brands v. Commission* ECR (1978), Case 27/76 74, 83, 91
 - universal service Directive 2002/22/EC, OJ L108/51, 24.4.2002 58, 107
 - value added tax for radio and television broadcasting Directive 2002/38/EC 127, 134, 153
 - VAT Directive, Sixth (77/388/EEC) 121, 127, 134, 142, 153
 - voice on the internet Directive 90/388/EEC 59
 - VoIP Commission Communication OJ C369, 22.12.2000 59
- Export Zones 299, 340
- FDI
- bilateral investment treaties 63, 218, 234, 246
 - China 171, 203, 205, 300, 301, 305, 340, 345
 - developing countries as suppliers of 171, 325
 - Export Zones 299, 340
 - and GDP 280, 281, 298–305, 330–31, 339–41
 - health and employment regulations, lowering of 299, 340, 342
 - horizontal/vertical 206–9, 211–12
 - import tariffs 189
 - and intellectual property rights 196–7
 - internalised/externalised transfers 203–6
 - international investment agreements 222–5
 - international rules on services 236
 - local business crowd-out 209, 299, 313, 314, 340, 351
 - and low-skilled workers 299, 331, 340
 - and male schooling 299
 - and right to development theory 280–81, 298–305, 307, 314, 330, 338–40, 346
 - and technology transfer *see under* technology transfer
 - see also* developing countries; multinationals
 - fibre-optic cable 18, 21, 23, 185
 - film industry 120, 122, 129, 132, 140, 146, 159
 - Finland 211
 - foreign Points of Presence (PoPs) 52–3
 - France 120
 - Syndicat Français de l'Express International (SFEI) v. La Poste* [1996] ECR I-2547, Case C-39/94 15, 131, 295
 - France Telecom 14, 22, 166
 - franchising 202, 298
 - Franck, M.T. 16, 246, 295, 313–14, 344–5, 347, 350–52
 - Free and Open-Source Software (FOSS) movement 190, 219, 230–32, 337
 - free-trade area agreements (FTAs)
 - intellectual property protection 249–51
 - licensing, compulsory 237
 - NAFTA 173, 223, 235, 237
 - performance requirements 234–45
 - United States 64, 122, 236, 237, 247, 249
 - see also* bilateral investment treaties; regional trade agreements
 - freedom of choice 266–7
 - freedom of expression 7, 33, 283, 287, 293–4, 305, 343
 - freedom of information 281, 342
 - G-8 Africa Action Plan 276
 - G-90 countries 165–6, 170, 171, 172, 239, 274, 325, 349, 353
 - GATS (General Agreement on Trade in Services)
 - accounting rates 52, 53, 54
 - Annex on Telecommunications 44, 45, 56, 69, 72–5, 76, 82, 83, 88, 116, 181
 - and anti-competitive practices 79
 - Article I (service delivery) 50, 127, 137, 138, 143, 147
 - Article II (MFN treatment) 50, 77, 125–7, 132

- Article IV (international trade in services) 173–4, 326–7
- Article V 224
- Article VI (domestic regulation) 14, 45, 125–6, 130, 138, 158, 170
- Article XIV (general exceptions) 134, 157–8, 182
- Article XIX (negotiation rounds mandates) 125, 174
- Article XV (subsidies) 297
- Article XVI (market access) 52, 76, 129, 130, 155–6, 157, 182
- Article XVII (national treatment) 126, 128, 133, 156
- Article XVIII (monopolies) 76, 147
- Article XX (tariff reductions) 148
- audiovisual services 120, 154
- classification list (W/120) 59, 65, 66–8, 71, 122, 124, 144–5, 159, 181, 197
- commercial presence (mode 3) 52, 61, 69, 81, 135, 143, 147, 156, 196
- consumption abroad (mode 2) 52, 81, 118, 135–6, 137, 143, 147, 169, 323
- content restrictions 120
- cross-border supply (mode 1) 68–9, 77, 81, 118, 132, 135, 136, 137, 139, 147, 155–7
- customs duties 132, 133, 134–5, 159
- electronic intangibles classification 120–21, 122, 123–9, 132–9, 143–4, 149, 152–8, 198
- Fourth Protocol 14, 49, 50, 52, 54, 56, 57, 82, 170–71, 179
- GATT, structural differences between 123–39
- import restrictions 143
- and interconnection 57
- movement of natural persons (mode 4) 52, 61, 81, 135, 147
- network-based transactions 325
- new service delivery sectors 64
- progressive trade liberalisation principle 139, 148
- quantitative restrictions 129–32
- Regulatory Reference Paper *see under* WTO
- Services Sectoral Classification List (MTN.GNS./W/164) 136, 181
- software implementation services 145
- special and differential (S&D) rights 25, 60, 174–5, 201, 220, 244, 288, 297, 326, 340, 350
- Specific Commitments Schedule 50, 52, 56, 66, 67, 68, 120, 154, 167
- technology neutrality 121–2, 147–8
- US-Gambling* 71, 155
- US-Telmex see Mexico-Telmex*
- GATT (General Agreement on Tariffs and Trade)
- Antidumping Agreement 130
- Article I (MFN rules) 244
- Article II (tariff concessions) 132, 148
- Article III (national treatment) 145
- Article VI (antidumping) 130
- Article XXIV 224
- consumer protection 156, 159
- customs duties 125, 127, 132, 133, 134–5, 148, 150–51, 156, 159, 167–8
- e-commerce 125
- electronic intangibles classification 120, 122, 124–9, 132–5, 148–51, 153, 155–8, 198
- Enabling Clause 224, 244, 350
- GATS, structural differences between 123–39
- goods and services, distinguishing between 69, 71, 143–4, 149–51
- Licensing Agreement 129
- living standards, raising 310
- most favoured nation 125, 127, 154–5
- national treatment 128, 132–3, 154
- progressive trade liberalisation principle 148
- quantitative restrictions 129, 154–5
- safeguard measures 125
- screen quotas 132
- telecommunications classification 65
- GDP, and FDI 280, 281, 298–305, 330–31, 339–41
- General System of Preferences (GSP) 25, 244–5, 279, 315
- Germany 92, 120, 205
- Deutsche Telekom 14, 79–80, 166
- Global Business Dialogue on electronic software (GBDe) 129
- global knowledge economy 277
- global warming 346

- globalisation 24, 38, 63, 258, 273, 308, 311, 313
- GNP 32, 306, 342
- GNU/Linux 230–31, 337
- Gordon, R. and J. Sylvester 256, 257, 258, 273, 274, 275, 329, 330, 341
- growth theory *see* new growth theory
- Gulf Cooperative Council 224
- Harvard Law School's Berkman Center for Internet and Society 230, 255, 336
- Havana Charter (1948) 78
- healthcare
and FDI 299, 340, 342
and ICTs 255, 266, 277, 278–9
and MCA 274
Millennium Declaration 311
RTD 281, 283, 291–2, 305, 345–6
and TRIPS 237, 241
see also human rights
- Hong Kong 69, 193, 198, 203, 300, 317
- Hutchinson Telecom 171, 325
- Ministerial Conference 61, 127, 133, 175, 189, 197–8, 314–15
- Sarbanes-Oxley Act 257
- HTTP (Hypertext Transfer Protocol) 101–2
- human capital 29–30, 32, 172, 253, 294, 301, 325, 331, 338, 341, 342
- Human Development Index 275
- Human Development Paradigm 266, 267, 276, 333
- human rights 5, 7, 16, 243–4
and enforcement of economic, social and cultural rights 342–3
and IEL 308, 311
and rights based development 7, 13
and RTD (right to development theory) 254, 261–3, 274–5, 280–87, 289–91, 298, 307, 312, 341, 345–6
and trade 308–10
UN Human Rights Commission 13, 263, 264, 282–3, 292, 308, 352
UN Human Rights Council 352
Universal Declaration on Human Rights 261, 290
and WTO 309–10, 312, 344
- see also* education; healthcare; poverty; trade
- Hungary 182
- ICT (Digital) Opportunity Index 188, 297, 305
- ICT (information communications technology)
alternative development 15–16, 30–31, 255, 266–7, 271–2, 277, 286, 329, 332–3
developing countries 182, 187, 190, 255, 268, 328–9, 331, 332
development 187, 265–73, 331
and digital divide 24–8, 30–31, 277
and domestic policy 168, 181–2
and human development 266–7, 270–72, 277–9, 286–7, 332–3
impact level 267–8
and Millennium Development Goals 5, 278
modernisation theory 15, 46, 255–6, 329–30, 351
new business generation 31, 268
optimists and pessimists 266–7
and poverty 188, 266, 278
readiness assessment in Jamaica 270–71, 279, 329, 333
social utilisation of 36–7
UN ICT Task Force 188
and World Summit on the Information Society 182–3
and WTO ITA Agreement 189
see also technology transfer
- IEL (international economic law)
criticism of 273, 329
fairness of 16, 313–14, 344, 350–51
and human rights 308, 311
and RTD *see* RTD
see also digital divide; World Bank; WTO
- imports
parallel 237–8
restrictions 38, 61, 189
- income levels 253, 342
digital divide 29, 31, 32, 34
and poverty 256–7, 280
- incumbent operators
competition measures 73, 166–7, 173, 181–2, 325, 328, 335

- margin squeezing 79
- new modes of operation 52, 53
- privatisation of 260
- regulatory bodies, separate 75
- India
 - business process outsourcing 182
 - complimentary services 69
 - electronic intangibles 150, 198
 - environmentally sound technologies 201
 - FDI 171, 203, 300, 305, 340, 345
 - human rights 343
 - ICT 189
 - internet spread 34, 84, 178, 269
 - IT standards 189
 - offshoring 197
 - and RTD 264
 - technical standard-setting 219–20
 - VNSL 84, 176
- Indonesia 142, 160, 178, 205, 264
- information society 36, 86, 90, 153, 187
 - World Summit *see* World Summit on Information Society
- Information Technology Agreement (ITA) 125, 155, 162, 167, 188–9, 218–19
- innovation
 - developing countries (DCs) 187, 200, 219, 324, 336–7
 - and digital divide 24, 25–6, 37
 - intellectual property rights 289
 - and licensing 222
 - reverse engineering 207
 - and right to development theory 254, 300
 - see also* patents; R&D
- Intel 88, 108, 207
- intellectual property rights
 - abuse by multinationals 200, 214, 272, 291, 329, 334
 - and Article 12 Framework Directive 93
 - and bilateralism 234–51, 291
 - Commission on Intellectual Property Rights (CIPR) 242, 249–50, 272, 294, 329, 344
 - and competition 191, 214, 221, 281, 283, 289
 - developing countries 212–13, 242–5, 250, 289, 293–4, 297, 307, 341, 347
 - development implications 245–7
 - and electronic intangibles 123–4, 139, 142
 - and innovation 289
 - as investment 238–9
 - and MFN principle 239
 - and non-patented technology 216
 - and patent pools 219
 - performance requirements 234–45
 - protection of 199, 247–8, 249–51, 300, 344, 348–9
 - regional and bilateral arrangements 247–9
 - and RTD Tax Relief 317
 - unbundling 211–18
 - World Intellectual Property Organisation (WIPO) 13, 122, 139, 238, 241, 243
- Intellectual Property Rights Commission (CIPR) 242, 249–50, 272, 292, 296, 329, 344
- Intelsat Agreement (1971) 43
- interconnection
 - and access, peering and transit 22, 91–2, 35–6
 - agreements 130
 - and backbone networks 5, 8, 9, 39, 177, 323
 - cost-orientated 75, 76, 78, 101–2, 171, 178
 - cross-border 76, 77, 81
 - developing country provisions 86, 169–70, 176, 186, 269
 - dispute settlement 356
 - equal access 55, 73
 - and Framework Directive 90, 93
 - geographic market 106
 - interface protocol 55, 72, 80
 - internet 80–86, 126–7, 176–7, 180, 185–6
 - ITU Recommendation D.50 51, 64, 85–6, 172, 178–80, 185, 186
 - leased-line capacity exchange 62–3
 - mandated 75
 - new modes of operation 52
 - non-discrimination 55, 56, 73, 76, 77, 82, 83
 - pricing guidelines 55, 56, 85
 - regulation 54–7

- interconnection (*cont.*):
 and Regulatory Reference Paper *see*
 WTO Regulatory Reference Paper
 standards 19–20, 101
see also competition
- international alliances 53, 75–6
- International Bill of Human Rights
 286
- International Covenant on Civil and
 Political Rights (ICCPR) 262, 280
- International Covenant on Economic,
 Social and Cultural Rights
 (ICESCR) 243, 262, 292–4
- international donor organizations 255,
 259, 306, 316, 343
see also DFID; UNCTAD; UNDP
- international economic law (IEL) 3–4,
 79, 187, 328–30, 334, 337, 341
- International Finance Facility 277, 339
- International Institute of Human Rights
 261
- international investment agreements
 (IIA) 222–4, 235, 236, 246, 250
- International Monetary Fund (IMF) 13,
 246–7, 248, 257–8, 275, 316
- international simple resale (ISR) 52
- International Telecommunications
 Regulations (ITRs) 48–9, 51, 170
see also WATTC
- International Telecommunications Union
 (ITU)
 Convention 43
 ‘D-Series’ accounting rate
 Recommendations 51
 interconnection standards 26, 44, 46,
 47–59, 175–6
 internet governance 184, 185, 186
 ITU-D (Telecommunication
 Development) 47–8, 54
 ITU-R (Radiocommunications) 48
 ITU-T (Telecommunication
 Standardisation) 47–8, 59
 Plenipotentiary Conference 49
 Recommendation D.50 45, 51, 64, 71,
 84–6, 172, 178–82, 185, 186
 Strategic Plan 1995–99 49
 Study Group 3 51, 54, 86
 Understanding on
 Telecommunications Accounting
 54, 77
- World Telecommunication Policy
 Forum (WTPF) 49
- WTO, cooperation agreement with
 49–50
see also WTO
- internet
 access costs 34, 86, 176–7, 268–9,
 327
 backbone providers (IBPs) 18, 22, 63,
 82, 84, 85, 177, 186
 caching content 35, 269–70
 diffusion 19, 21–4, 26–8, 31, 178,
 283, 341, 342
 and economic development 85
 end-user access 269, 271, 344
 governance 184–5, 186
 infrastructure evolution 19–24
 interconnection 80–86
 most favoured network 126–7
 mutual compensation for use of
 resources 84, 179
 regional exchange points 269
 spread 19–24, 28–30, 167, 172, 178,
 328–9, 331
 telephony 53, 176–7, 328
 traffic hubs 84, 85, 86
- internet service providers (ISP)
 ADSL connection 103, 110
 Africa 23, 176, 177, 328
 Asia *see* individual countries
 competition 269
 costs 34, 35, 63, 82, 84, 85, 107, 186
 developing countries (DCs) 82, 176,
 177, 178, 179, 323
 market share 109–10
 monopolist 112
- Internet Corporation for Assigned Names
 and Numbers (ICANN) 13, 18, 184
- Internet Costs Study 34–7, 176, 178,
 269–70, 327–8, 353
- Internet Engineering Task Force 20
- Internet Exchange Points (IXPs) 177,
 186
- Internet Governance Forum (IGF) 185
- IP (Internet Protocol) *see* Transmission
 Control Protocol (TCP)
- Iran 264
- Ireland 197
- Irish Sugar v. Commission* (1999) 5
 CMLR 1300 110

- Island of Palmas Arbitration* 246, 347
 Israel 197
 Italy, *Commission v. Italy* [1974] ECR 709, Case 173/73 15, 131, 295
- Jamaica
 case study 270–73, 277, 279, 329, 333
 e-government 271, 333
 ICT readiness assessment 270–71, 279, 329, 333
- Japan 14, 154, 156, 161, 170, 172, 180, 198, 204, 263–4
 Japan – Taxes on Alcoholic Beverages
 WTO Doc WT/DS8/AB/R,
 WT/DS10/AB/R, WT/DS11/AB/R
 125, 145–6
 Sarbanes-Oxley Act 257
- Java 88, 108
- joint ventures 53, 63, 166, 196, 203–4, 209
- Jordan, *US–Jordan* (2000) FTA 236, 238
- knowledge spillovers 209, 301, 341
- Korea 69, 178, 190, 203, 219, 224
 FDI 171, 203, 204, 300, 345
 Korea – Various measures on beef
 158
- Latin America 23, 28, 214, 216
- law and development 256–7, 267, 269, 272, 276, 279, 329, 341
- layering theory
 access transparency 272, 328
 applications layer 100, 103
 at multilateral level 115–17
 collective dominance 110–11
 communications networks and
 services regulations 95–117
 and competition 169, 323
 component parts 100–104, 109–10, 113
 connectivity layer 100
 content layer 100, 101, 103, 112
 cost accounting technology 177, 323
 customer layer 100, 106
 and developing countries (DCs)
 115–17, 168–75
 and electronic intangibles 169
 equipment and software layer 99–100
 interdependent markets 110–11
 market share 109–10, 169, 323
 navigation and middleware layer 100
 network layer 100, 113, 115
 and packet-switching 171, 325
 policy layers 99–100
 product and geographic markets,
 relevant 104–9, 110–11, 113
 and SMP reinterpreted 111–17
 TCP/IP networks 98, 100–111, 109
 transport layer 103, 111
 United States 97–100
- leased lines 52, 53, 63, 76, 84, 92, 167, 176, 269, 327–8
- least developing countries (LDCs)
 aid programmes 316
 definition of 24, 25
 Integrated Framework for Technical Assistance (IF) 316
 internet connection costs 86, 269
 and low-skilled workers 300, 331, 340
 multinationals licensing into 215, 228, 229, 295, 297, 300
 TRIPS obligations 272
 see also developing countries for joint entries
- Lessig, Lawrence 230, 232, 336
- licensing
 compulsory 237, 238, 289, 335
 copyleft 230, 336–7
 Creative Commons 230, 232, 336–7
 electronic intangibles 129–30
 EU 92, 107, 168, 173
 inappropriate structure 177
 intellectual property rights 212, 214, 216, 218, 222, 224, 237, 242
 public availability of criteria 356
 and technology transfer 196, 200, 202
 transaction costs reduction 229
- like product determination 145–7
- Like-Minded Group 264, 274, 281, 321, 342, 352, 353
- Limburg Principles 292–3
- literary works 123
- living standards 253, 266, 283, 292, 310, 333, 338
 see also human rights
- local content rules 38, 214
- Lotus v. Paperback* (June 28, 1990 740 F.Supp. 37) 206

- Magill* Joined cases C-241/91P and C-242/91P 74, 214
- major supplier 56, 73–5, 76–8, 81–4, 115, 354, 355, 356
- Malaysia 171, 178, 205, 208, 264
- market access 52, 60, 63, 68–70, 81, 89, 129–30, 169, 241
- barriers to 85, 104
 - developing countries 174, 181–2, 198, 223, 277, 313, 315, 323, 325
 - GATS Article XVI 52, 76, 129, 130, 155–6, 157, 182
 - interdependent markets 110
 - NAMA tariffs 189, 190, 198
- Marks, S. 255, 263, 264, 274, 275, 280, 302, 308, 341, 353
- Maximin principle 314, 351
- MERCOSUR 224
- mergers 63, 164, 209
- Mexico 85, 171, 203
- EC-Mexico FTA 243
 - Mexico-Telmex* Case 44, 45–6, 51, 54, 64, 71, 75–80, 171, 174, 179–80, 336
 - and Reference Paper 75–80
- Microsoft 22, 86, 87, 88, 100, 106, 108, 191, 230
- Middle East 23
- Millennium Challenge Account (MCA) 255–6, 274–6, 280–81, 294, 307, 321, 339, 341–2, 353
- Millennium Challenge Corporation 274
- Millennium Declaration 278, 311
- Millennium Development Goals (MDGs) 5, 69, 167, 258–9, 276, 278, 279, 297
- mobile network infrastructure 62, 90, 168
- modernisation theory 15, 46, 255–6, 329–30, 351
- monopolies
- control 73, 76, 88, 108, 215, 335
 - in developing countries (DCs) 167, 171, 172, 181
 - and SGEI *see* SGEI
 - see also* MNCs
- Morocco 23
- US-Morocco* (2004) FTA 236, 241
- most favoured nation (MFN) principles 9, 25, 50, 77, 124–7, 154–5, 198, 224, 238–40, 244, 248, 315
- most favoured network 126–7
- movement of natural persons 61, 81, 135, 147
- MP3 files 87, 102–3, 121, 131, 146, 148, 159
- multilateral
- funding 274
 - technology transfer 218–22
 - telecommunication measures, developments in 71–86
 - trading 63, 167–8, 169, 201, 218, 231–2, 247–8, 306–7, 322–3
- Multilateral Investment Guarantee Agency 276
- multinationals (MNCs)
- and FDI 204, 206–9, 214, 272, 345
 - intellectual property rights abuse 200, 214, 272, 291, 329, 334
 - international alliances 53
 - licensing into LDCs 215, 228, 229, 295, 297, 300
 - misuse of market power 281, 344
 - OECD guidelines 229, 352
 - outsourcing 196–7
 - R&D decentralization 300
 - regulation 290
 - RTD tax relief 281, 295–7, 299, 317, 340, 344
 - technology transfer 69, 188, 197, 199–200, 204–5, 207, 213, 215, 261, 300
 - see also* FDI; monopolies
- music download 87, 102, 122
- national treatment 68, 81, 124, 128–9, 132, 145, 181, 223, 238, 323
- NEC Corporation v. Intel Corporation* 67.434 ND. Cal. February 6th 1989 207
- neoliberalism 257, 275
- Nepal 34, 264, 269
- network-based transactions 64, 68–70, 171, 181–2, 312–13, 325, 346
- new business generation 31, 55, 268
- New Economy Project (NEP) 272
- new growth theory (NGT) 280–81, 300, 302, 339, 342, 352

- New International Economic Order (NIEO) 214, 255, 257, 260, 263, 285, 290
- New Media Index 33, 253, 338
- new modes of operation in reverse, developing countries 175–8, 185, 272, 326, 329
- newspaper readership 33, 253, 338
- Next Generation Networks 115
- Nicaragua, *US–Nicaraguan* bilateral investment treaty 238
- Nigeria 23, 169, 215
- Nokia 87
- non-governmental organisations (NGOs) 249, 258, 259, 271, 334
- OECD 27–8, 32, 51, 69, 169
 - budget support good practice guidelines 279
 - cartel prohibition 78–9
 - development aid 278
 - Good Practice Guidelines 279
 - MNC guidelines 229, 352
 - Paris Declaration on Aid Effectiveness 259
 - production fragmentation study 189, 206
 - trustee relationships 265
 - Understanding the Digital Divide* 25
- Official Development Assistance (ODA) 274, 277, 306–7, 317, 340, 353
- offshoring 196, 197, 266, 331
- Old Media Index 33, 253, 338
- oligopoly 74, 207–8
- Olivetti/Mannesmann/Infostrada* 106
- Open Systems Interconnection (OSI) standards 20, 101, 177, 323
- Oscar Bronner v. MediaPrint* Case C-7/97 74, 83
- Outer Space Treaty (1967) 43
- outsourcing 69, 169, 171, 182, 189, 196–7, 206, 323
- packet-switching 20–21, 53, 57, 63, 80–81, 82, 88, 90, 112, 181
 - content filtering 101
 - developing countries 178–80, 186
 - IP Protocol 93, 97, 116
 - and layering theory 171, 325
 - VoIP 81
- Pakistan 264
- Paris Declaration on Aid Effectiveness 2005 259
- Partnership on Measuring ICT for Development 188
- patents
 - abuse of dominant position 229
 - ‘Bolar’ exception 248
 - database 199
 - licensing 199, 212, 213, 215
 - non-patented technology 216
 - overriding 237
 - pools 219
 - protection 212, 226, 237, 247–9, 272, 329, 334, 344
 - see also* innovation; R&D
- peering 63, 82, 103, 126, 130, 186
- performance rights protection 243
- Permanent Sovereignty over Natural Resources (PSNR) 261, 285
- Poland 36, 182
- political rights 254, 261–3, 275, 305, 312, 333, 337–8, 343–4
 - see also* human rights
- Portugal 36
- poverty
 - gap between rich and poor 35, 258–9, 317
 - and ICT 188, 266, 278
 - and RTD 264, 278, 305
 - Third World debt crisis 258
 - Truman’s Point IV Program 256, 257
 - UN Human Poverty Index 267
 - and World Bank 256–60
 - see also* developing countries; human rights
- price
 - DFID Internet Costs study 35–7, 176–7
 - discrimination 213–14
 - fixing 78, 79, 80, 104–5
 - interconnection guidelines 55, 56, 85
 - predatory 79, 130
 - regulation 215, 335
 - SSNIP test 104–5, 107, 112
 - transfer 208, 209, 214
- privatisation 60, 66, 166, 258, 259, 260, 317–18
- production fragmentation 189, 206

- progressive trade liberalisation principle
139, 148
- protectionism 69
- public domain access 167, 199, 226,
229–30, 334, 336
- Public Switched Telephony Network
(PSTN) 52, 72, 97
- Quad countries 6, 70, 170, 171, 198,
234, 236, 239, 245, 312, 325–6,
344–5
see also Canada; European
Communities; Japan; United States
- quantitative restrictions 129–32
- R&D 21–2, 24, 196, 202–3, 212, 298,
300–301, 317, 341
see also innovation; patents
- Rambus v. Infineon Technologies AG*, No.
Civ. A. 3:00CV524 (2001) 219
- Reference Paper *see* WTO Regulatory
Reference Paper
- regional trade agreements
and competition 218, 224, 228–9
see also free-trade agreements
- restrictive business practices 78, 215,
229
- reverse engineering 38, 206–7, 219
- Roche Products, Inc. v. Bolar
Pharmaceutical Co* (1984) 248
- Romania 36
- royalty payments 139, 201, 205, 212,
215, 219, 224, 235, 242
- RTD (right to development theory)
and absorption 291, 300, 334
access to resources 286
and civil and political rights 254,
261–3, 275, 305, 312, 333, 337–8,
343–4
and collective rights 283–7
as composite right theory 254, 256,
338
decision-making 286
Development Compact 274, 294,
305–7, 340–41, 346, 353
and digital divide 254, 280, 282, 307,
321, 338, 350
domestic economic law enforcement
285
domestic level obligations 291, 294
economic development 273–80,
282–3
and economic growth indicators 254,
291, 338, 346
economic right to development theory
282–3
and efficiency 272, 333–4
enforcement of 253, 348
Equation 5 254, 282, 302–5, 338–40,
347, 349
equity and justice 281–2, 287, 305,
318, 341–2
and FDI 280–81, 298–305, 307, 314,
330, 338–40, 346
and human rights 254, 261–3, 274–5,
280–87, 289–91, 298, 307, 312,
341, 345–6
Human Rights Working Group 306
Independent Expert (Arjun Sengupta)
13, 262, 274, 281, 283–75, 290,
292, 302, 305–7, 338, 340–41
and innovation 254, 300
and international economic law
280–305, 307–8, 311, 338, 346
justiciability 265, 282, 338, 340, 345
legal obligation 292–4
Like-Minded Group 264, 274, 281,
321, 342, 352, 353
Maximin principle 314, 351
and MCA 255, 274
modernisation theory 15, 46, 255–6,
329–30, 351
multilateral funding 274
and new growth theory 280–81, 300,
302, 339, 342, 352
opposition to 262–5
and poverty 264, 278, 305
and technology transfer 254, 281,
283, 285, 286–7, 314, 340, 345
UN RTD 12, 260–61, 264, 273–4
United States opposition to 255,
262–3, 263–4, 280–81, 312, 341,
345
weaknesses 264
RTD tax relief 187, 254–5, 286, 304,
323–4, 326, 329–30, 349–53
digital divide 273
and intellectual property rights 317
Maximin principle 314, 351
and MCA 255

- and multinationals 281, 295–7, 299, 317, 340, 344
- and technology transfer 286, 295–7, 314, 317, 323, 345
- and WTO 188, 278, 307–18, 340
- Russia 182
- satellites 62, 65, 90, 110, 147, 150–51, 176, 185
 - Conventions on Satellites 43
- scarce resources, allocation and use of 75, 178, 357
- Sea Containers v. Stena Sealink*
 - Commission decision OJ 1994 L 15/18 74
- semiconductor technology 218–19
- Sen, Amartya 266
- Sengupta, Arjun (Independent Expert on RTD) 13, 262, 274, 281, 283–5, 290, 292, 302, 305–7, 338, 340–41
- Services Sectoral Classification List
 - MTN.GNS/W/120 59, 181
 - MTN.GNS/W/164 136
- SGEI (services of a general economic interest) 172–4, 312–13, 325–6, 335, 346, 348
- Sicker, C.D. 96, 98, 99, 100, 101, 111
- significant market power (SMP) 99, 107, 111, 113–14
 - collective dominance 110–11
 - European Commission 74, 83, 91–3, 95–6, 104, 109, 113, 217
 - and layering theory 111–17
- Singapore 64, 69, 142, 160, 178, 190, 198, 203, 219
 - Singapore Telecom 84, 171, 176, 325
 - Copyright (Amendment) Bill 2004 207
 - FDI 171, 203, 204, 205, 212, 300, 345
 - Issues 236
 - US–Singapore* FTA (2003) 236
- Slovenia 36
- SMEs (small and medium-sized enterprises) 122, 159, 193, 272, 277
- Soeftestad, L. and M. Sein 30–31, 265–70, 271–2, 276, 329, 331–3, 341
- software
 - access 93, 227, 323
 - cost accounting 177
 - FOSS 193, 230–32, 337
 - HS classification 145
 - implementation services 145
 - languages 25
 - legal protection of 207
 - mass production of 141
 - offshoring 196, 197, 266, 331
 - open source 19–20, 193, 230–32, 337
 - Transmission Control Protocol 20
 - see also* electronic intangibles; reverse engineering
- sound recordings 123
- South Africa 23, 34, 178, 269, 343
- South–South trade 190, 317, 332, 345
- sovereignty 12, 158, 214, 246, 258, 260, 347
- Spain v. Commission* [1994] ECR I-4103, Cases C-278–280/92 15, 132, 296
- special and differential (S&D) rights, developing countries 25, 60–61, 173, 174, 288, 301, 326, 340, 350
- spillover *see* technology transfer
- Sri Lanka 264
- state intervention 79, 215, 216, 217, 317, 318
- Structural Adjustment Programs (SAPs) 258
- sub-contracting 38, 196, 202, 298
- subsidies
 - agricultural 225, 236
 - cross-subsidisation 75, 167, 176, 177, 327, 328, 355
 - GATS Article XV 297
 - WTO Subsidies Agreement 15, 131, 225, 297, 312, 346
- Sun Microsystems 88, 108
- sustainable development 4–5, 183, 259–60, 264, 265, 278, 279, 318
- switching technology *see* circuit-switching; packet-switching
- Switzerland 22
- Taiwan 67, 178, 190, 198, 219, 317, 345
- Tanzania 23, 169–70
- tariffs
 - developing countries (DCs) 25, 188–9, 198, 201, 244, 331, 347
 - peaks 197–8

- tariffs (*cont.*):
 preferential 234, 242, 244–5, 316, 349
 technology transfer 217
see also customs duties
- taxation
 discriminatory 70, 121
 incentives 131
 repatriation 70
 RTD tax relief *see* RTD tax relief
 and transfer pricing 208–9
- technical standard-setting
 assistance 70, 190, 220
 collective dominance 110
 and layering theory 111–17
- technology
 anti-circumvention 241
 fostering markets 212
 neutrality 59, 87, 90, 121, 134, 147–8
 service exports *see* electronic
 intangibles
 transfer 6, 8, 30, 38, 63, 172, 187–8,
 192–233
see also ICTs (Information
 Communications Technology)
- technology transfer
 absorption 209
 access to document-embodied
 knowledge 199, 336
 acquisition by importation 200–202
 agreement restrictions 214–17
 and bilateral investment treaties
 (BITs) 222–5
 block exemption (TTBE) 209, 217,
 227
 business partnerships 202, 298
 developing countries 30, 38, 62, 64,
 69, 172, 177, 186–7, 192–233, 261,
 316, 331, 334–5
 FDI 202–11, 299, 300, 305, 307, 340
 FDI horizontal/vertical 206–9,
 211–12
 FDI internalised/externalised transfers
 203–6
 grant-back conditions 200, 213
 international investment agreements
 (IIA) 222–4, 235, 236, 246, 250
 IPR package, unbundling 211–18
 licensing 196, 200, 202
 local content requirements 214
 multilateral level 218–22
 multinationals 69, 188, 197, 199–200,
 204–5, 207, 213, 215, 261, 300
 performance requirements 223–4,
 235
 public domain information 167, 199,
 226, 229–30, 334, 336
 regional trade agreements 218, 228–9
 and right to development theory 254,
 281, 283, 285, 286–7, 314, 340,
 345
 and RTD tax relief 286, 295–7, 314,
 317, 323, 345
 skills and know-how acquisition
 196–9
 spillover 199, 205–7, 209–11, 281,
 291, 294–5, 334, 340, 344
 tariff setting 217
 UN definition 195
 validity challenges 200
- telecommunications
 basic services 67, 68, 72, 75, 81, 82,
 93, 98, 115
 classification 48–9, 59, 64, 65–8, 70,
 81, 84, 171–2
 competition in 14, 43, 45, 52, 54–7,
 61, 322
 complimentary services 68–70
 corporatisation 60
 debt 60
 deregulation 30, 47, 56, 66, 331
 developing countries *see* developing
 countries
 economies of scale 35, 43, 175, 177,
 328, 332–3
 international 43–86
 international telephony rules 26
 investment 60, 63, 69
 ITU *see* ITU
 leased line capacity, Europe 22
 liberalisation 35, 46, 56, 61, 66, 81,
 166, 167, 269
 local loop unbundling, Europe 22
 network access 26–8, 29, 31, 33, 76
 operator charges 35
 policy 34–7, 167–8
 regulation *see* ITU; WTO
 Regulatory Reference Paper *see under*
 WTO
 value-added services 67, 68, 69–70,
 73, 81

- Television Without Frontiers Directive (TWFD) 128, 151
- Telia/Telenor* COMP/M.1439 108
- Telia/Telenor/Schibsted* Case NoIV/JV.1 27.05.1998 108
- Thailand 64, 205
- 3G technology 62, 106, 168
- Togo 23
- trade
- barriers 25, 70, 104, 128–9, 208, 248, 316, 332
 - in democracy 310, 344
 - neutrality principle 145–7, 162
 - sanctions 229, 239–40
 - see also* free-trade area agreements; GDP; human rights
- trademarks 211, 215
- Transmission Control Protocol (TCP) and Internet Protocol (IP)
- enforcement of services 101
 - H.323 series 59
 - and interconnection 55, 72, 80
 - IPv6 62, 115, 116, 132
 - layered policy model 98, 100–111
 - new regulatory framework 100–111
 - new service delivery sectors 64, 89, 93, 177, 178, 189
 - software 20
 - standardization 253
 - telecommunications classification 48–9, 64, 68, 81, 84
- transnational corporations 4, 8, 36, 261, 290, 308
- see also* multinationals
- Trinidad and Tobago 169–70
- TRIPS 25, 123, 139, 201
- anti-competitive practices 287
 - Article 3 238
 - Article 4 238, 239
 - Article 7 199, 221, 243, 289, 334
 - Article 8.2 200, 221, 289
 - Article 12 243
 - Article 31 209, 221, 237, 289, 334
 - Article 33 213, 348
 - Article 38 219
 - Article 40 200, 209, 221, 335
 - Article 40.2 200, 221, 289, 334
 - Article 41 139
 - Article 65 344
 - Article 66.1 250, 272, 296, 329, 344
 - Article 66.2 187, 220, 233, 287–8, 295, 307, 340
 - intellectual property standards 236–7, 245, 247–8, 249, 250, 289, 291
 - licensing, compulsory 237, 289
 - patents 213, 348
 - and public health 237, 241
 - and technology transfer 287, 307, 340
 - TRIPS-plus provisions 122, 233, 236, 237, 238, 239, 243, 247, 291
 - see also* World Intellectual Property Organisation Copyright and Phonogram Treaties
- Truman's Point IV Program 256, 257
- Uganda 34, 269
- UGC/Liberty Media* COMP/M.2222 24.04.2001.1065.1998 108
- UK 72, 205, 279
- Commission for Africa 276–80, 339
 - DFID *see* Department for International Development (DFID)
 - Sarbanes-Oxley Act 257
- UN
- Charter, Articles 1, 55 and 56 289
 - Committee on Economic, Social and Cultural Rights 309
 - Conference on Financing 279, 315
 - Control of Restrictive Business Practices 78
 - Financing for Development conference 315
 - Gender Development Index 267
 - Gender Equity Measure 267
 - Global Compact 290
 - Human Development Index 267, 275
 - Human Poverty Index 267
 - Human Rights Commission 13, 263, 264, 282, 292, 306, 308
 - Human Rights Council 352
 - ICT Task Force 188
 - International Standard Industrial Classification (ISIC) 66
 - Millennium Declaration 278, 311
 - Millennium Development Goals (MDGs) 5, 69, 167, 258, 276, 278
 - nationalising natural resources 260
 - Norms on Corporate Responsibility 290

- UN (*cont.*):
- Right to Development 12, 260–61, 264, 273–4
 - technology transfer definition 195
 - Vienna Declaration 262, 263, 287
- UN Conference on Trade and Development (UNCTAD) 12, 14, 165, 195, 200, 305
- and Alternative Development 255
- financial assistance from 199
- and FOSS 231
- Information Economy Report (2005) 24
- International Code on the Transfer of Technology 194, 200, 229
- Investment Report (2004) 196, 202, 204, 208, 216, 224, 298
- Sao Paulo Consensus 170, 246
- South–South trade 190, 317, 332, 345
- Trade and Development Report (2005) 301, 332
- World Investment Reports (2004 and 2005) 63, 171, 190, 193, 196, 202, 204, 208, 216, 224, 236, 298, 325
- UN Development Programme (UNDP) 13, 15, 31, 255, 264
- Human Development Index and Report 275–6, 279
- UN Industrial Development Organisation (UNIDO) Report 203
- UNCPC (central product classification) 65, 66, 67, 82–3, 122, 144, 157
- Business Services (CPC 87) 182
- Code 842 145, 181
- unemployment 36, 167
- United Brands v. Commission* ECR (1978), Case 27/76 74, 83, 91
- United States
- accounting rates 51
 - Advanced Research Project Agency (ARPA) 19
 - Bananas* case (WT/DS27/R/USA) 126, 144, 153, 180
 - bilateral investment treaties 64, 122, 235, 236, 239, 241, 249
 - China, account trade deficit with 332
 - CIX (Commercial Internet eXchange) Association 21
 - Clayton Act 88, 108, 209
 - common carrier regulations 59
 - communication sectors regulation 45, 88
 - Computer Inquiries, FCC 97–8, 175–6
 - cross-border gambling 119, 148, 155–7, 162, 182, 324
 - Digital Millennium Copyright Act (DMCA) (1998) 207, 241, 243
 - Digital Subscriber Line (DSL) 45, 88
 - Digital Trade Agenda 64
 - e-commerce trade 68–9, 120, 121, 128–9, 148–55
 - electronic intangibles classification 120, 128–9, 148–55, 161, 198
 - Federal Communications Commission (FCC) 13, 45, 51, 88, 175
 - Federal Trade Commission (FTC)
 - study on competition and patents 226
 - free-trade area agreements 64, 122, 235, 236, 239, 241, 249
 - Freedom House 275
 - GSP schemes 244–5
 - Heritage Foundation 275, 280
 - and human rights 287, 308
 - information services 82–3, 181
 - intellectual property rights 212, 226–7, 239–42, 249
 - Inter-State Horseracing Act 157
 - interconnection payments 57, 186
 - international leased lines 84–6, 178
 - internet backbone providers 84–5
 - internet governance through ICANN 184
 - internet spread 21–2, 26–7, 97, 178
 - internet telephony regulation 53
 - internet traffic hubs 86, 178–9
 - layering theory 97–100
 - Lotus v. Paperback* (June 28, 1990 740 F.Supp. 37) 206
 - market access opportunities 70, 241
 - Mexico-Telmex* Case 44, 45–6, 51, 54, 64, 71, 75–80, 171, 174, 179–80, 336
 - Millennium Challenge Account (MCA) 255, 256, 274–6, 280, 292, 307, 339, 341, 353
 - Millennium Challenge Corporation 274
 - multinational technology fees 205
 - mutual charging 85

- National Science Foundation 21
NEC Corporation v. Intel Corporation
 67.434 ND. Cal. February 6th 1989
 207
 network-based transactions 68–9
 North American Industry
 Classification System 161
 Overseas Development Assistance
 274
Rambus v. Infineon Technologies AG,
 No. Civ. A. 3:00CV524 (2001) 219
Roche Products, Inc. v. Bolar
Pharmaceutical Co (1984) 248
 RTD opposition 255, 262–3, 263–4,
 280–81, 312, 341, 345
 rules of origin 245
 Sarbanes-Oxley Act 257
 semiconductor technology 219
 Sherman Act 88, 108, 209
 silo model 97, 98
 Specific Commitments to WTO 81,
 83
 SSNIP test 104–5
 Streamlined Sales Tax Project 160–61
 subsidies, agricultural 225, 236
 tariff rates 150–51, 198
 technology transfer 223
 Telecommunications Act 1996 26, 38,
 59, 81, 91, 97–8, 180
 Trade Act (1974), Section 301 240
 Trade Act (2002) 240–43, 250, 272,
 296, 329
United States of America v. Microsoft
Corporation (364 U.S. App D.C.
 330) 88, 108
United States v. El du Pont de
Nemours & Co 118 F Supp 41 (D
 Del 1953) aff'd US 377 (US Sup
 Ct 1956) 112
United States – Measures Affecting
the Cross-Border Supply of
Gambling and Betting Services:
Report of the Appellate Body,
 WT/DS285/AB/R (April 2005) 69
 119, 148, 155–7, 162, 182, 324
 US Uruguay Round Agreements Act
 (19 U.S.C. 3511(d)(15)) 240
US–Australia FTA (2004) 236
US–Central America FTA (CAFTA-
 2004) 236
US–Chile FTA (2003) 236
US–Gambling 119, 148, 155–7, 162,
 182, 324
US–Jordan FTA (2000) 62, 236, 238
US–Morocco FTA (2004) 236, 241
US–Nicaraguan bilateral investment
 treaty 238
US–Singapore FTA (2003) 236, 238
 USAID 242–3, 243, 272, 280
 VoIP 59, 83, 181
 WTO DSB 179
 Universal Declaration on Human Rights
 261–2, 290
 universal service/access 37, 75, 89,
 172–3, 325, 352–3
 Uruguay Round 46, 50, 60, 72, 225,
 240
 venture fund capital 33, 342
 video-on-demand 65, 121, 132, 142–3,
 159
 Vietnam 182
 Virtual Private Network (VPN) 52, 102
 voice networks 21, 80, 81, 90, 106,
 114–15
 VoIP (Voice over Internet Protocol) 50,
 53, 57–9, 80–81, 79, 83–5, 168,
 181
 W/120 GATS classification list 59, 65,
 66–8, 71, 122, 124, 144–5, 159,
 181, 197
 Washington Consensus 258
 Washington Treaty on Intellectual
 Property in Respect of Integrated
 Circuits (1989) 218
 wireless access 25, 35, 47–8, 58, 62, 65,
 89, 97, 147, 269–70
 Wireless Access Protocol (WAP),
 standardization 25
 World Administrative Telegraph and
 Telephone Conference (WATTC)
 43, 48
see also International
 Telecommunications Regulations
 (ITRs)
 World Association of Investment
 Promotion Agencies 199
 World Bank 11, 22–3, 47, 57, 59, 198,
 240, 273, 305, 318

- World Bank (*cont.*):
- Aid for Trade (AfT) programme 86, 314–16, 317, 341, 353
 - Comprehensive Development Framework (CDF) 258–80, 259, 343
 - and competition legislation 61, 64, 73, 79, 80, 83–4, 85, 146–7, 229
 - and developing countries 257–8
 - Global Trade Facility (GTF) 315, 316
 - Golden Age of Development 257–8
 - infrastructure funding 64
 - IPR protection 196–7
 - Multilateral Investment Guarantee Agency (MIGA) 277
 - poverty definition 256–7
 - poverty reduction strategies (PRS) 259–60
 - social welfare policies 259
 - Structural Adjustment Programs (SAPs) 258
 - technical assistance programmes 323
 - telecommunications liberalisation 167
- World Customs Organisation (WCO) 65, 144, 150
- World Development Report (2005) 276
- World Intellectual Property Organisation (WIPO) 13, 122, 241, 243
- Copyright Treaty (WCT) 139, 238
 - Performances and Phonograms Treaty (WPPT) 139, 236
- World Summit on the Information Society (WSIS) 5, 86, 182–91
- Action Plan, Article 6 183–4, 218
 - Declaration and Action Plan 195
 - Declaration of Principles 183, 218
 - Digital Solidarity Fund (DSF) 185, 232
 - and ICANN 184
 - Tunis Agenda 182–8, 231, 297, 305
 - see also* technology transfer
- World Telecommunication Policy Forum (WTPF) 49
- World Telecommunication Standardization Assembly 2000 (WTSA) 64, 85
- WTO (World Trade Organization) 5, 12, 22, 41–2, 57–69
- Access to Basic Science and Technology (ABST) 231
 - and accounting rates 54
 - Additional Commitment (interconnection) 56
 - Aid for Trade (AfT) programme 86, 314–16, 317, 341, 353
 - Annex on Dispute Settlement 289
 - Annex on Telecommunications (AT) 45, 46, 68–9, 181
 - Annex on RTA decision 224, 234, 301
 - anti-dumping 130
 - Appellate Body 119, 143, 145–6, 155–8, 324
 - Bananas* case (WT/DS27/R/USA) 126, 144, 153, 180
 - Basic Telecommunications Agreement (BTA) 54, 59–60, 62, 66, 73, 80, 81, 115, 165, 175
 - Bits and Bytes Reference Paper 172, 354–7
 - Canada – Certain Measures Concerning Periodicals* 143
 - Cancun Ministerial Conference *see* Cancun Ministerial Conference
 - Carrier Media for Data Processing Valuation Decision 150
 - civic approach 311–12, 314
 - competition policy 61, 64, 73, 79, 80, 83–4, 85, 146–7, 229
 - Council for Trade in Services 50, 54, 59, 72, 136, 137, 138, 142
 - customs duties 132–5, 150, 188–90, 197–8
 - Dispute Settlement Body (DSB) 44, 46, 54, 75, 78, 80, 119, 147, 155, 159, 179, 230, 288, 316, 323, 336
 - Doha *see* Doha
 - e-commerce 127, 135, 138, 146–7
 - EC-Asbestos* 156
 - electronic intangibles *see* electronic intangibles
 - Enabling Clause 224, 244, 350
 - functional approach 311–12
 - GATS *see* GATS
 - GATT *see* GATT
 - General Cancun Decision 174, 220, 222, 288–9
 - goods agreements 130, 131
 - goods and services, distinguishing between 143–4, 160–61

- harmonised commodity description and coding system (HS) 65, 124, 144, 152, 187
- Hong Kong Ministerial Conference 61, 127, 133, 175, 189, 197–8, 314–15
- and human rights 309–10, 312, 344
- Information Technology Agreement (ITA) 125, 155, 162, 168, 188, 189, 218
- and interconnection *see* WTO Regulatory Reference Paper
- Internet treaties 243
- ITU, cooperation agreement with 49–50
- Japan – Taxes on Alcoholic Beverages* WTO Doc WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R 125, 145
- Korea – Various measures on beef* 158
- ‘major supplier’ definition 83
- Mexico-Telmex* Case 44, 45–6, 51, 54, 64, 71, 75–80, 171, 174, 179–80, 336
- modes of supply 135–9
- NAMA tariffs 189, 190, 198
- network-based transactions 68–9
- new trade agenda 62
- progressive trade liberalisation principle 148
- Regulatory Reference Paper (RP) 44–5, 52, 57, 69, 72–80, 88, 115, 159, 168–75, 312, 323, 346
- and RTD tax relief 188, 278, 307–18, 340
- Sanitary and Phytosanitary Agreement 201
- Schedule of Commitments 130
- Section 2.2 Reference Paper 56
- service suppliers 69
- Services Sectoral Classification List 59, 64, 70
- Singapore Ministerial Conference 188
- Software Implementation Services 145
- special and differential (S&D) treatment provisions 60–61, 173, 174, 288
- spillovers 210
- Subsidies Agreement 15, 131, 225, 297, 312, 346
- Swiss formula 189–90
- technical assistance programmes 63
- Technical Barriers to Trade Agreement (TBT) 191, 219
- telecommunications classification 65–8, 70
- telecommunications liberalisation 167
- Tokyo Round 150
- Trade and Development Committee 123, 175, 220, 224, 288
- Trade in Goods Council 123
- trade neutrality principle 143–5, 160
- Trade Related Investment Measures (TRIMS) 210
- trade rules on tariffs 244
- Trade in Services Council 50, 54, 59, 72, 123, 137, 138, 142
- transparency mechanism 224, 234, 301
- TRIPS Council *see* TRIPS
- US-Gambling* case 71, 119, 148, 155–8, 159–60, 162, 182, 324
- Working Group on Trade and Competition Policy 221
- Working Group on Trade and Investment (WGTI) 205, 208
- Working Group on Trade and Transfer of Technology (WGTT) 188, 278, 295–6, 307, 312, 313, 314, 344–5, 349–50, 352
- World Summit on Sustainable Development, Action Plan 201 *see also* ITU
- Zambia 34, 269

