Transnational Corporations

Fragmentation amidst integration

Grazia Ietto-Gillies

London and New York

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Recent years have seen a dramatic increase in international production worldwide, accompanied by considerable changes in its geographical structure. This volume examines the role of transnational corporations (TNCs) in the geography of international production, covering both theoretical and empirical aspects.

The book is structured into four parts.

- Part I: introduces transnational corporations in their integration role; analyses the various types of international transactions in which they are involved, providing empirical evidence.
- Part II: considers a variety of business networks from both empirical and theoretical perspectives.
- Part III: presents a theory of the transnational corporation based on strategies of organisational and locational fragmentation.
- Part IV: presents a theoretical analysis of the globalisation process and the role of TNCs; identifies the TNC and the information and communication technologies as the dominant causes of the process, and draws the theoretical and policy implications of this.

This work will be of essential interest to scholars, policy makers and professionals in the areas of international business strategy, international economics, politics and international political economy.

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For Donald and Mark

The multinational corporation, because of its great power to plan economic activity, represents an important step forward over previous methods of organizing international exchange. It demonstrates the social nature of production on a global scale . . . it releases great sources of latent energy.

However, as it crosses international boundaries, it pulls and tears at the social and political fabric and erodes the cohesiveness of national states.

(Stephen Hymer, 1971: 131)

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Preface

This book is about transnational companies (TNCs), their activities and strategies. The analysis will concentrate on the TNCs as institutions that operate across nation-states in their business activities. At present, they are the main economic actors that can plan, manage and control activities across frontiers. This is a characteristic that is specific to them and that, moreover, gives them a key integrative role, and therefore a key role in the globalisation process.

Operating across nation-states means not just operating across space but also across areas of different 'regulatory regimes'. This entails operations across different tax and currency regimes, different labour organisation regimes, and different business cultures.

It is the contention of this book that the TNCs' ability to operate across frontiers gives them special comparative advantages in relation to other actors in the economic system with which they are confronted. Such actors are, in particular: labour, consumers, uninational companies and national governments. Moreover, the nature of such advantages is specific to transnationalism: to the ability to operate *across* nation-states as loci of different 'regulatory regimes'. This adds to any advantages deriving from exploiting specific location characteristics in any one of the countries in which they operate.

The book is structured in the following way. Part I begins with an excursion into the globalisation process and the role played in it by information and communication technologies and by transnational companies. It then goes on to consider (in chapter two) the main cross-country mechanisms of integration and globalisation and to give empirical evidence for them. Specifically, this chapter will examine the role played by the TNCs in the following mechanisms: international trade, foreign direct investment, portfolio investment, profits from foreign investment, international inter-firm collaborative agreements and the movements of labour between countries.

The second part of the book is devoted to TNCs as network institutions. Chapter three contains a theoretical analysis of networks considered in their organisational, locational and proprietary/ownership dimensions and in relation to the objectives of the firm in establishing networks. These will be

identified as strategic, efficiency and control objectives. The TNC emerges as a firm at the centre of a web of networks with a variety of dimensions.

Chapters four and five are devoted to an empirical analysis of a type of network that is specific to the TNC: the internal networks of affiliates across countries. Two main aspects of these internal, cross-countries networks will be considered in particular: the propensity of TNCs to operate abroad and their propensity to spread their activities among many countries of the world. Specific indices will be developed to assess the patterns and trends of these networks. The degree of concentration of affiliates in host countries will also be considered. Estimates and analysis of the various indices of internationalisation based on the location of affiliates for the world's largest TNCs will be given in chapter four. The overall analysis of the chapter will be based on size, industry and home country breakdowns.

Chapter five is devoted to estimates and analysis of similar indices for a period of approximately 35 years for the largest UK TNCs in manufacturing and mining. For the year 1997, this chapter will also give comparisons between service and manufacturing industries. It will also provide a regional analysis based, partly, on the location of affiliates and, partly, on regional intensity indices for inward and outward stock of foreign direct investment.

The third part of the book contains a theoretical analysis that draws partly on the empirical evidence presented in parts I and II. Chapter six develops a theory of the transnational company that focuses on two specific characteristics: (a) the tendency towards organisational fragmentation via a variety of networks; and (b) the ability of transnational companies to operate across nation-states and therefore across different 'regulatory regimes'. These two characteristics enable the TNCs to fragment and divide other actors and in particular labour and governments. Three elements will be stressed: first the advantages deriving from operating across nation-states; second the advantages of spreading activities across different countries; and third the comparative nature of such advantages in relation to other actors in the economic system. The latter sets of advantages will focus in particular on the position of TNCs in relation to labour and analyses the transnational spread of activities as a strategy towards labour and, to a lesser extent, as a strategy towards governments.

Chapter seven considers the extent to which other theories have incorporated issues of regulatory regimes in their treatment of the transnational company. Chapter eight contains a critical analysis of the approach to the TNCs based on the 'new trade and industrial location theories'. It is claimed that these theories analyse the multinational company as a company operating in space. They are therefore unable to capture the main feature of the TNC: its ability to operate across nation-states and their regulatory regimes. The theories therefore miss the comparative advantages that such transnational ability gives the companies and which is the focus of chapter six.

The final part will place the TNC at the centre of the current globalisation process. It also draws policy implication from this perspective as well

as from the empirical and theoretical analysis of the rest of the book. Chapter nine begins with a review of different approaches to globalisation and their policy implications. This is followed by a causal analysis that sees the transnationals as one of the two dominant driving forces – the *causae causantes* – of globalisation; the other is identified in the development and diffusion of information and communication technologies. The various threads are then pulled together in chapter ten where theoretical and policy implications are drawn. The policy implications are arrived at by looking at the TNC as the actor operating across different 'regulatory regimes' and at its strategic position in relation to other actors as well as at the dominant position it has in the globalisation process.

Grazia Ietto-Gillies
London, March 2001

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Abbreviations

GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GDFCF	Gross Domestic Fixed Capital Formation
MNC	Multinational Corporation/Company
TNC	Transnational Corporation/Company
BW	*BusinessWeek*
WoW	*Who owns Whom*

The expressions 'transnational corporation' or 'transnational company' (TNC) will normally be used throughout. However, when discussing works by other authors their terminology will be used, such as: multinational corporations/companies (MNCs); international firms/enterprises or multinational enterprises (MNEs).

Part I

Globalisation, integration and the TNCs

. . . the parts of the world are all so related and linked together . . .

Pascal (1623–62), *Pensées* (XV: 199), translated by
A.J. Krailsheimer (1966), Penguin (p. 93)

1 Globalisation, new technologies and transnationals

1.1 Introduction

The last two decades of the second millennium have seen very considerable developments worldwide in many aspects of economic and social life. Most changes have their roots in two main basic structural elements: (a) a very high degree of interconnectedness of world economies usually referred to as globalisation and (b) the adoption and diffusion of new technologies particularly those related to communication and information. These two elements are interlinked and affect each other.

Globalisation has now become an everyday household term, used to characterise, explain, and justify many current economic and social developments. The term and its common usage convey the impression that it is potentially and actually possible for ordinary people and economic actors to get in touch, interact and do business with other people and communities worldwide. The expression has also increasingly come to be associated with the feeling that economic activity, events and processes have a pattern and life of their own and that we cannot – and should not – do much to alter them.

The public at large usually interprets a high degree of globalisation and international integration to mean and imply that: we travel more; we communicate with the rest of the world more quickly; we receive images and sounds of news in real time; we are able to buy the same type of car or jeans or hamburger in Dallas, Rome, Beijing, Moscow or Mexico City; we can do business all over the world. In other words, our consumption, production, exchange, leisure and culture activities are more integrated with the rest of the world.

The ease and speed of communication increases the perception of integration by making people aware of problems and opportunities in remote parts of the world. It also heightens the awareness of the global nature of some problems which, at first sight, might appear to be local, such as environmental problems, human rights issues, local wars. Far from being local, these problems and issues have become global and are now generally perceived as such (Held *et al.*, 1999).

Globalisation and international integration are usually considered to be part of the same process and this is how they will be seen in the rest of this

book: the globalisation process leads to a high degree of interconnectedness of economies and societies. Integration has both *de facto* and *de jure* connotations. The former captures the integration brought about by the intensification of international transactions in all their various forms. The latter refers to the integration process brought about by changes in the legal, institutional, policy frameworks linked to regionalisation (Pelkmans, 1984; United Nations Conference on Trade and Development, Programme on Transnational Corporations (UNCTC), 1990; Hine, 1994; Oman, 1994, 1996; Krugman and Venables, 1996). The two connotations tend to strengthen the integration process.

No analysis of globalisation can be complete without an understanding of the role played in it by the transnational companies (TNCs). They are the key to understanding global changes in the economy and society: they are therefore key players in the integration process. It is in particular with reference to the latter statement that this chapter considers the main characteristics of the globalisation process. The topic will be taken up again in chapter nine when it will be argued that the TNCs and their activities are one of the two dominant causes of the contemporary globalisation process. The other dominant cause will be identified as the information and communication technologies (ICTs).

Alongside their integrative role, the TNCs follow fragmentation strategies and these will be the subject of Part III. Part II analyses business networks and therefore looks at TNCs in both their integrative and fragmenting roles. The implications of the TNCs' twin role – integration and fragmentation – will be analysed in the last chapter.

The present chapter develops along the following lines. The next section considers the main characteristic of globalisation and is followed by an analysis of the role of technology in globalisation and by a brief discussion of the role of TNCs in it. This is an issue which will be taken up at greater length in the next chapter where I shall consider the activities of TNCs and their role in the cross-country transaction flows.

1.2 The specific character of globalisation

Throughout history there have been various periods of fairly extensive spatial 'outreach' in which individuals, communities, social groups, businesses and governments established links which led to flows of people, resources and products across different countries.

Traditionally, business links tended to be confined to countries in a position of geographical proximity and/or ease of access and to countries linked by political/colonial ties.[1] Historical examples of the first group are countries of the Mediterranean basin in Roman times or Venice and the Adriatic/near East countries in later centuries. The Roman Empire or, later, the British or French ones are examples of the second group.

This 'outreach' process acquired the character of internationalisation since the birth of the nation-state. This is true both in terms of appropriateness of the term internationalisation and in terms of the role played by the nation-states and its governments in the 'outreach' process. The term is used to describe business and wider linkages between agents of two or more nation-states, be they private citizens or companies or governments and public institutions.

Business links across different nation-states have always been quite strong and they have indeed grown. It is, however, possible to distinguish various phases. Prior to the First World War (WWI) the main mechanisms of internationalisation and integration across nation-states were trade, migrations and capital movements (Hirst and Thompson, 1996; Obstfeld, 1998). After WWI both movements of labour and capital slowed down and trade relations suffered under protectionist measures.

In the post-Second World War era up to the late 1960s the major form of transaction became trade. Direct foreign investment and production gradually picked up as a major mechanism of internationalisation and the relevance of direct investment increased considerably from the 1970s onwards.[2] The 1980s and 1990s have seen increases in many components of international transactions and particularly great leaps in all aspects of international financial flows (Akyuz, 1995; Chesnais, 1997; Held *et al.*, 1999: ch. 4) and in cross-border business partnerships (Organisation for Economic Cooperation and Development (OECD), 1992; Hagedoorn, 1996).

Held *et al*. (1999) apply the term 'globalisation' to all processes of spatial reach throughout history. I will consider their analysis at greater length in chapter nine. Here I shall say that I disagree with their attempt to use the term in such a historically comprehensive way. I feel that the concept of globalisation is more appropriately applied to the developments in the economy and society in the last twenty-five years. These developments show specific characteristics and have put in motion a largely irreversible – though not uncontrollable – process. It is the conjunction of all these characteristics together that give rise to a specific, new phase of capitalist development (as it will be further argued in chapter nine).

Globalisation can be characterised in terms of a variety of quantitative and qualitative elements.[3] The quantity and quality aspects are not always distinguishable. They are so closely interconnected that they blend into each other. Among those that are more *quantitative* in nature are the following. Empirical evidence on them will be presented in chapters two, four and five.

1 The *number of mechanisms* of interconnectedness and the related cross-border transactions are increasing: from traditional trade flows to foreign direct investment (FDI), to portfolio investment and other financial

flows to related profits and dividends from such investments, to business partnerships to the international movement of people.

2 Growth in the *extensity*, that is in the geographic/spatial reach of interconnectedness. The majority of flows tend to be confined within specific regions such as the EU. However, the definition of regions is gradually becoming more inclusive as for example in the case of the EU. Moreover, there is also a considerable increase in inter-regional flows as the costs of transportation and communication decline.

3 Growth in the *intensity or depth* of cross-border activities and transactions. The weight of such activities in relation to the size of national and world economies has increased by almost any of the measures usually considered.

Among the *qualitative* changes can be listed the following:

1 *Breadth* of change. The range and number of 'domains'[4] affected by the globalisation process is large and increasing: from population movements to culture, to the environment, to economic and social relations, to politics and the military machinery (Held *et al.*, 1999). Moreover, the process is cumulative in a variety of ways. Because the mechanisms and transactions across countries are not exclusive but they cumulate; because the effects spread from one domain to the other. Because once the globalisation process has started it tends to snowball and grow for most or all the mechanisms and domains considered.

2 *Technological* basis of globalisation and in particular the information and communication technology (ICT) revolution. The new technologies affect the intensity, extensity and breadth of globalisation, as well as the velocity of movement of products, people and resources. They also allow the development of new ways of transacting within and across frontiers.

3 *Social and organisational changes*. The new technologies and the globalisation processes affect (and are affected by) the way companies organise production. They also affect the organisation of macro governance within and across nation-states, as well as the linkages between groups and peoples. Some authors talk of the 'network' economy as something that affects production, consumption and society in general (Castells, 1996, 1997).

4 *Political basis*. Starting with the Thatcher and Reagan administrations many governments worldwide have been actively supporting the globalisation process towards specific directions. The support has come through de-regulation policies, through privatisation programmes,[5] through facilitation of mergers and acquisitions, through the gradual dismemberment of welfare provisions, through giving monetary stability and policies the main or only role in the steering of the economy. Thus, globalisation has gradually come to be seen as part and parcel of market-

led policies. Moreover, there seems to be a widespread belief that the globalisation process cannot and should not be tampered with by governments. Thus globalisation has so far gone hand-in-hand with a strong ideology of liberalisation.

5 *Financial domination of the economy*. The current globalisation phase of capitalist development has a strong financial basis (Akyüz, 1995; Chesnais, 1997). The dominance of finance capital is not new in capitalism in its national or international phase.[6] However, the 1980s and 1990s have seen the dominance of finance capital to an unprecedented degree and affecting a larger number of countries. The new technologies have greatly helped the spread and volume of financial transaction within and across borders. Compared with previous phases of finance domination of economies, the present one is characterised and specifically enhanced by the following elements: (i) the new technologies; (ii) the deliberate policies of deregulation and privatisation of many governments in both developed and developing countries; (iii) the dominance of market-led ideologies; (iv) the general move towards a service economy.

All these quantitative and qualitative characteristics have two elements in common. (1) They are all greatly influenced by (or indeed fully dependent on) the technologies of communication and information; and (2) their biggest common contributors are the transnational companies. The TNCs are involved in all the quantitative aspects of the above characteristics and – directly or indirectly – in all or most of the qualitative elements.

The next section will consider the technological environment of globalisation. This is a very wide topic in itself and indeed one to which many authors have contributed (Perez, 1983; Freeman, 1992; Castells, 1996, 1997; Dalum *et al.* 1999). There are many economic and social issues as well as theoretical and empirical ones emerging from it. Here the topic will be just touched on as it is outside the scope of this book. The next chapter will consider at greater length the role of TNCs in the various mechanisms of international integration and globalisation.

1.3 The technological environment of globalisation and its impact

The last few decades have seen technological changes in a variety of fields and particularly in the life-sciences and biotechnology and in the information and communication technologies. The latter follow improvements in the technology of transportation and communication – the space-shrinking technologies (Dicken, 1998: 151) – stretching back over a century.

In the course of the twentieth century, improvements in the technology of transportation – the system for moving people and goods across space – have been made in sea, road and rail transport and, of course, significantly

in air transport. This has led to a gradual decrease in the relative costs of transportation. Milberg (1998: 79) reports that: 'Maritime costs are currently one-third of their 1920 level, while air transport costs have fallen by more than 50 per cent since 1950'.

The communication system relates to the transmission of information across distances. For most of human history, the speeds of transportation and communication were the same (John *et al*., 1997: ch. 3; Dicken, 1998): messages could travel only at the speed of transportation. For centuries people attempted to develop systems that would enable them to convey messages at a higher speed than that allowed by the transportation system. Examples of this are the attempts to convey messages by carrier pigeons, through smoke or flag signals. The breakthrough came with electricity and the developments of radio, telegraph and telephone. These allowed messages to travel much faster than the speed at which transportation took place, while, of course, transport itself was positively affected by the applications of electricity.

The developments of the last two decades in information and communication technology are, however, of a different order of magnitude and qualitative relevance. The speed, quality and quantity of information and communications services have all been changed to unprecedented levels. Experts estimate that we are still at the beginning of a massive transformation in terms of overall spread and impact on the economy. The technological changes are so profound and wide-ranging both qualitatively and quantitatively as to amount to a shift in techno-economic paradigm (Perez, 1983; Freeman, 1992, particularly ch. 6).

There have, of course, been previous technological revolutions affecting many industries. However, the current one is having an impact not only on many industries, their products and production processes but also on the consumers and their interaction with the producers. Moreover, it is affecting every *function* within the industries (Dalum *et al*., 1999) and thus it permeates the economy and society at a much deeper level. Every single activity within the firm is affected: from R&D to the planning and organisation of production and its processes, to the administrative functions within the firm, to marketing and selling of products, to relationships with customers, to stock control. Workers are affected in the skills required, in the way they work, in the way they use their leisure time. Consumers are affected in terms of the range of products they have access to and in the mode of their access to them. The new technologies have brought about, in particular, the following developments.

1 *Introduction of new products*: mainly intangible and knowledge-based ones at both the levels of finished and intermediate products. New intermediate service products are required for the production of both manufacturing and services such as software, management data. A considerable number of new products (both services and manufacturing)

is emerging from the convergence of different activities all linked by the ICTs. The increase in service products is very considerable. However, as often in the past, technological developments have brought also the embodiment of services into goods (Bhagwati, 1984). Moreover, at the industry level, the new technologies are leading to convergence of previously separated industries such as electronics, telecommunications, publishing (Dalum *et al.*, 1999).

2 *New production processes* with flexible systems have, partly, replaced the earlier Fordist systems based on mass production. This has been speeded up by advancement in the ICTs (Oman, 1994, 1996; Castells, 1996, 1997).

3 Scope for *combining global with local* – glocalisation – in two respects. First, in terms of adapting products to local markets, tastes and cultures. Second in terms of adapting the production process to take account of availability of skills in different countries. This means locating components requiring different skills in different countries according to the relative abundance/scarcity of skills (Fröbel *et al.*, 1980; Castells, 1993).

4 *New ways of trading products* including exchanges on-line. Therefore some products are now delivered at the speed of the fastest communication system, that is in real time. This contrasts with the situation prevailing throughout most of human history when, as already mentioned, products could only be delivered at the speed of transportation.

5 *New factor services and related skills* requirements. This extends from the services of software engineers and computer experts in general, to marketing and management skills. Moreover, all jobs within companies need different types of skills. Literacy, numeracy and ability to communicate and work in teams, replace the traditional unskilled labour power which was based on physical strength and stamina.

The technological shift has made possible and speeded up the globalisation process. Conversely, the economic and political forces behind globalisation have enhanced the tendency towards the adoption and wider diffusion of the information and communication technologies (ICTs).

1.4 Transnational companies and globalisation

As already mentioned, globalisation is characterised by both qualitative and quantitative elements interacting with each other in a cumulative process. Among the quantitative elements, the following cross-border flows are particularly relevant as an indicator of the extent and depth of globalisation and of the related degree of integration across countries.

- Trade in goods and services.
- Foreign direct investment.
- Financial flows including portfolio investment.

- Profits, dividends and interests related to the various types of international investments.
- Inter-organisation collaborative agreements. Most of these are between firms though there is often also collaboration between private and public institutions (such as universities) across borders.
- Movement of people taking place for a variety of reasons.

Though these elements are considered mainly as quantitative ones, they also all have strong qualitative impacts on the countries concerned. These range from the establishment of linkages between firms, exchange of knowledge (on technology and other business matters such as organisational and managerial ones) to the cultural effects due to movements of people, or the diffusion of similar products and production processes in various countries. Cross-countries inter-organisation co-operation as well as cross-country intra-firm networks have both quantitative and qualitative connotations. Trade, investment, expatriation, may emerge from them, as does the exchange and diffusion of technology or new skills, organisational and managerial methods.

The TNCs play a big role in most quantitative and qualitative mechanisms of integration and globalisation as will be highlighted in the next chapter. They participate in all or most types of cross-border transactions and affect both their quantitative and qualitative manifestations. They are, in fact, the economic actor with the highest degree of active participation in the process because they are the only actors which can plan, organise and control activities across countries. Therefore, they contribute to shape the pattern of globalisation more than any other actor. This puts them in a stronger position compared with other participants in the process, many of which bear the effects of globalisation in a passive way.

In summary, I consider the TNCs to have a special role in integration and globalisation for three main reasons: (1) because of their organisational ability which allows them to take full advantage of the new technologies and to operate fully and successfully across borders (cf. chapter three); (2) because of the extensity and depth of their participation in the globalisation process (cf. chapters two, four and five); and (3) because of their comparative position vis-à-vis other participants in the process (cf. chapter six).

1.5 Conclusions

This chapter has briefly touched on the globalisation process and the role played in it by the transnational companies. It has introduced the main characteristics of the process. The chapter has then considered the role of information and communication technologies in globalisation and briefly discussed the role of TNCs in it. The next chapter will analyse the main mechanisms on international integration and globalisation with particular reference to the role that TNCs play in them.

2 The role of TNCs in cross-border transactions

2.1 Introduction

At the end of the previous chapter mention was made of the major components of international transactions and thus of the major mechanisms of globalisation and international integration. The present chapter will present evidence on the growth of TNCs and their activities and on the role that the TNCs play in all the major flows of international transactions.

The TNCs are, in fact, responsible for all FDI and the related profits originating from them. They are also responsible for a large share of portfolio investment and for most of world trade. The TNCs contribute also to movements of highly skilled labour, some of which take place within the company itself thus via internal labour markets at the international level. The organisation of production across borders results in networks which sometimes are fully internal to the firm, sometimes are external and contractual as we shall see in chapter three.

In some cases the activities are part and parcel of the nature of the TNC (as in the case of FDI). In others the activity was historically well established before the advent of the TNC, though transnationals now make a (or the) major contribution to it, as in the case of international trade.

The rest of the chapter will proceed as follows. The next section will give evidence on growth of TNCs and their direct activities. The various flows of international transactions will then be analysed, namely: international trade; foreign direct investment; financial investment; profits from international investment; movements of labour across countries and interfirm and intra-firm networks. The analysis will focus mainly on the role of TNCs and their activities in each type of transaction. A concluding section summarises.

2.2 The growth of transnational companies and their direct activities

The number of transnational companies worldwide has increased considerably in the last three decades. Table 2.1 gives the number of TNCs for

Table 2.1 Parent TNCs by country. 1968/1969 and latest available year. Numbers and percentage shares

Country	*1968/1969*		*Latest available year (shown in parentheses)*		
	Number	*% Share*	*Number*		*% Share*
United States of America	2,468	33.9	3,387	(97)	8.5
United Kingdom	1,692	23.3	1,094	(98)	2.8
Germany	954	13.1	8,492	(98)	21.4
France	538	7.4	1,695	(98)	4.3
Switzerland	447	6.1	4,506	(95)	11.3
The Netherlands	268	3.7	1,608	(93)	4.0
Sweden	255	3.5	3,965	(99)	10.0
Belgium and Luxembourg	253	3.5	988	(97)	2.5
Denmark	128	1.8	9,356	(98)	23.5
Italy	120	1.6	806	(97)	2.0
Norway	94	1.3	900	(98)	2.3
Austria	39	0.5	896	(97)	2.3
Spain	15	0.2	857	(98)	2.2
Portugal	5	0.1	1,100	(99)	2.8
Total (above 14)	7,276	100.0	39,750		100.0
World	n/a	—	63,459		

Source: UNCTAD (1996 and 2000).

14 main developed countries in the years 1968/9 as 7,276. The number of TNCs for the same group of countries is 39,750 by the late1990s: an almost sixfold increase. The current ownership structure by country in the most recent period is highlighted in Table 2.2 which gives, for each main country and area, the number of TNCs to which they are home and the number of affiliates of foreign TNCs located in them. In the latest years available the total number of TNCs is given as 63,459, while the number of foreign affiliates located in the country is 689,520.

The largest share of TNCs originates from developed countries (almost 77 per cent) with the EU share at over 50 per cent. However, the developed countries' share is slowly decreasing as the number of TNCs originating in the developing countries increases. In interpreting the data in both Tables 2.1 and 2.2, account must be taken of the fact that we are only dealing with the number of TNCs. There is no indication of the TNCs' size nor of the number of foreign countries in which they operate.

The location of foreign affiliates shows a different breakdown compared with the location of parent companies. Only 13.7 per cent of foreign affiliates were located in developed countries (Table 2.2). The corresponding share for the EU is 7.6. The discrepancy in the breakdown between location

Table 2.2 Number of parent companies and foreign affiliates: main areas and countries. Latest available year (shown in brackets)

Country/Area	*Parent firms based in country*		*Foreign affiliates located in country*	
	Number	*%*	*Number*	*%*
Developed economies	48,791	76.9	94,269	13.7
EU:	32,096	50.6	52,673	7.6
Austria (97)	896	1.4	2,464	0.4
Belgium and Luxembourg (97)	988	1.6	1,504	0.2
Denmark (98)	9,356	14.7	2,305	0.3
Finland (98)	1,200	1.9	1,491	0.2
France (98)	1,695	2.7	9,494	1.4
Germany (98)	8,492	13.4	12,042	1.7
Greece (91)	n/a	n/a	798	0.1
Ireland (98)	39	0.1	1,140	0.2
Italy (97)	806	1.3	1,769	0.3
The Netherlands (93)	1,608	2.5	2,259	0.3
Portugal (99)	1,100	1.7	3,500	0.5
Spain (98)	857	1.4	7,465	1.1
Sweden (99)	3,965	6.2	3,759	0.5
UK (98)	1,094	1.7	2,683	0.4
USA (97)	3,387	5.3	19,103	2.8
Japan (98)	4,334	6.8	3,321	0.5
Developing economies	12,518	19.7	355,324	51.5
China (97)	379	0.6	235,681	34.2
Central and Eastern Europe	2,150	3.4	239,927	34.8
World	63,459	100.0	689,520	100.0

Source: UNCTAD (2000).

Note
n/a, not available.

of parent and location of affiliates is a reflection of the fact that the developing and the central and eastern European (CEE) countries, while being home to few TNCs, host a large number of affiliates of foreign-based TNCs. China plays a big role in this pattern: it is host to over 34 per cent of affiliates while it is home to less than 1 per cent of the world TNCs.[1]

The pattern of location in the number of foreign affiliates does not necessarily coincide with the location of FDI or of the employment that such investment generates. An affiliate may incorporate a large amount of investment and/or employment or it may incorporate only a small amount: it could be only a sales point with an office and one person attending to it or it may represent a large productive capacity and workforce employed in it. In the developing countries the low level of coincidence between the share of affiliates and the share of FDI is quite striking. The inward stock

Table 2.3 Stock of inward FDI, developed market economies, developing countries and central and eastern Europe. Selected years, 1914–99. Percentage shares

Host region	*1914*	*1938*	*1960*	*1971*	*1975*	*1980*	*1985*	*1990*	*1995*	*1999*
Developed countries	37.2	34.3	67.3	65.2	75.1	75.5	71.4	78.4	71.7	67.7
Developing countries	62.8	65.7	32.3	30.9	24.9	24.5	28.6	21.4	27.0	30.1
Central and eastern Europe	n/a	n/a	n/a	n/a	n/a	0.02	0.02	0.2	1.3	2.2
Unallocated	—	—	0.4	3.9	—	—	—	—	—	—

Source: For 1914, 1938, 1960, 1971 – Dunning (1983), table 5.2; for 1975 – United Nations Centre on Transnational Corporations (UNCTNC) (1988), table I.3; for 1980 onwards – UNCTAD (2000).

Note
n/a, not available.

of FDI in developing countries is just over 30 per cent of the world total (Table 2.3): a considerably lower percentage than the percentage of the number of affiliates (51.5 as in Table 2.2).

The overall employment for which TNCs are responsible worldwide has moved from 40 million in 1975 to 86 million in 1998 (United Nations Conference on Trade and Development – Division on Transnational Corporations and Investment (UNCTAD-DTCI), 1994: 175; UNCTAD, 1999: 265). The employment share of foreign affiliates of developing countries is more consistent with the number of affiliates attributable to these countries. From the estimates in UNCTAD (1999: table IX, p. 265) it appears that of all the employment in foreign affiliates of TNCs worldwide, 53 per cent is in developing countries. Thus the affiliates in developing countries represent a very large share of the total number of world affiliates and they are responsible for a very large share of employment, though they have a relatively low share of FDI stock (30.1 per cent in Table 2.3). This is an indication that, on the whole, the affiliates in developing countries tend to be less capital-intensive and to absorb less investment than the ones in developed countries.

On the outward side, the developing and central and eastern European (CEE) countries' share of stock is just over 10 per cent (Table 2.4), while they are responsible for just over 23 per cent of TNCs (Table 2.2). This discrepancy is an indication that the TNCs located in developing countries are still relatively small companies. Moreover, as their establishment may have been rather recent compared with TNCs from developed countries, they have not had the time and scope for large accumulation of capital stock abroad.

Table 2.4 Stock of outward FDI, developed market economies, developing countries, central and eastern Europe. Selected years, 1980–99. Percentage shares

Home region	*1980*	*1985*	*1990*	*1995*	*1999*
Developed countries	96.9	95.4	95.2	90.8	89.9
Developing countries	3.1	4.6	4.8	9.0	9.8
Central and eastern Europe	0.001	0.004	0.02	0.2	0.3

Source: UNCTAD (2000).

Though the number of TNCs worldwide is increasing, the largest ones are still the most relevant in terms of activities and in terms of international reach. UNCTAD (2000: 71) points out how: 'Large companies dominate both outflows and inflows of direct investment. For instance, the 50 largest TNCs from the major home countries account for over half of their FDI outflows – indeed, for some countries, the share exceeds 90 per cent . . .'. Moreover, the list of the world's 100 largest TNCs tends to be dominated by firms from the Triad (EU, US and Japan). In 1998 some 93 of the top 100 TNCs had their headquarters in Japan, North America or the EU. The percentage has steadily increased from 90 in 1990 to 92 in 1997 and 93 in 1998 (UNCTAD: 2000, table III.23, p. 76).

The data on parent companies and their affiliates and on the regional location of the inward and outward stock of FDI highlight two important issues. First, the growing number of TNCs and thus the growing relevance of their direct activities in the globalisation process. Second, the fact that the decision-making institutions of world production and business activities are to a very large extent located in developed countries. However, the impact of these decisions is felt throughout the world in both developed and developing countries.

The direct activities of TNCs have increased worldwide in absolute terms and, most pertinently, in relative terms. The relative weight of their activities – in relation to the size of the domestic economy – and its growth, in the world regions differs. Table 2.5 gives several indicators of TNCs' activities in relation to various measures of size of the world economy. The world flows and stocks of FDI have been increasing in relation to total output, gross fixed capital formation (GFCF)[2] and exports. The percentage of sales taking place directly through affiliates has overtaken the sales via exports. The last two rows in Table 2.5 show the increasing relevance of direct production in the sourcing of markets by TNCs.

A regional breakdown of data highlighting the relative importance of foreign affiliates of TNCs in production activities of host regions is presented

Table 2.5 International production and world economic activity. Selected indicators. 1960–98

Indicator	*1960*	*1975*	*1980*	*1985*	*1990*	*1995*	*1998*
World FDI inward stock as % of output	4.4	4.5	4.9	6.7	8.6	9.6	13.7
World FDI inflows as % of output	0.3	0.3	0.5	0.5	1.0	1.2	2.3
World FDI inflows as % of gross fixed capital formation	1.1	1.4	2.0	1.8	4.0	5.4	11.1
World FDI outflows as % of exports	n/a	2.7	2.2	3.2	7.1	5.7	10.3
World sales of foreign affiliates as % of exports	84.0	97.0	99.0	99.0	129.0	101.0	148.0*

Source: UNCTAD-DTCI (1994 and 1995) and UNCTAD (1996 to 2000); World Trade Organization (WTO) (various issues).

Note
n/a, not available. *1997.

in Tables 2.6 and 2.7. On the inward side, FDI plays a bigger role in developing than developed countries in relation to the size of the domestic economies. On the outward side, the pattern is reversed: the developed countries exhibit higher percentages, though the developing countries' ratios have been increasing from 0.9 per cent in 1980 to 6.7 per cent in 1998. Table 2.6 gives further evidence of the large role – in relation to the size of the economy – played by foreign and domestic TNCs with respect to the UK compared with other major countries and regions: the UK ratios are considerably higher than those for other developed countries and areas on both inward and outward sides.

Table 2.7 gives the actual output of foreign affiliates of TNCs. It shows some increase in the share of output in developing countries. The increase becomes substantial when related to the GDP of those countries: a reflection of stagnation or decline in GDP more than of increased share of production by affiliates of foreign TNCs.

Foreign direct investment is the activity most directly identified with the TNCs. However, TNCs' activities span much wider than FDI, which is indeed one of the several modes of market penetration open to companies. Other modes include exports, licensing and inter-firm agreements. Moreover, the motivations for FDI go well beyond market sourcing and embrace the seeking of natural resources, as well as efficiency reasons and the securing of strategic assets (Dunning, 1992). Therefore the data on FDI give only a crude picture of the full role of TNCs in globalisation and international integration.

Table 2.6 FDI inward and outward stock as a percentage of GDP by region, selected years

Region	*Inward*			*Outward*		
	1980	*1990*	*1998*	*1980*	*1990*	*1998*
Developed countries	4.7	8.3	12.1	6.4	9.8	16.4
European Union	5.3	10.7	17.3	6.1	11.7	22.9
United States	3.1	7.1	9.5	8.1	7.8	11.5
Japan	0.3	0.3	0.7	1.9	6.8	7.1
UK	11.7	20.8	23.3	15.0	23.4	35.9
Developing countries	5.4	10.5	20.0	0.9	2.3	6.7
Central and eastern Europe	n/a	1.5	12.1	n/a	0.3	1.7
World	4.9	8.6	13.7	5.4	8.6	14.1

Source: UNCTAD (2000: Annex, table B6).

Note
n/a, not available.

It should also be remembered that FDI data relate to equity involvement by company and country. However, companies also have non-equity involvement in international transactions.[3] Moreover, foreign direct investment can take place via greenfield investment or via mergers and acquisitions (M&As). The M&A mode of FDI has quite different implications from the greenfield mode. It does not involve an increase in productive capacity in the host country but only a change in ownership of assets. In fact, following restructuring of the merged organisations, capacity is likely to decline. Therefore the M&A mode of FDI has considerable implications for the assessment of the effects of FDI in both home and host country including the impact on employment and the competitive environment.

This is no small matter since mergers and acquisitions have been the main mode taken by FDI worldwide in the last two decades as documented in UNCTAD (2000) and in the data presented in Table 2.8. It shows for the world total and for the last three years available, ratios of 77.1 on the sales to inward FDI side and 79.5 per cent on the purchases to outward FDI side.[4] Moreover, international acquisitions of privatised assets account for a very large percentage of all inward FDI in developing and CEE regions (Sader, 1995; John *et al.*, 1997: table 2.13, p. 63; UNCTAD, 2000: table A.IV.22, p. 263). When FDI takes a mergers and acquisition mode, the degree of international integration to which it gives scope may vary from company to company and within the same company from the short to the long period, according to the company's strategy on internal integration and restructuring. These considerations reinforce the view that globalisation, integration and the role of TNCs in them have strong qualitative as well as quantitative features.

Table 2.7 Gross output of foreign affiliates of transnational companies. Values and shares in GDP

Region	*Value ($m) and percentages*						*As a percentage of GDP*		
	1982		*1990*		*1994*		*1982*	*1990*	*1994*
	Value	*%*	*Value*	*%*	*Value*	*%*			
Developed countries	403.0	72.9	1,098.0	79.4	1,099.0	70.6	5.1	6.7	5.4
Developing countries	150.0	27.1	283.0	20.5	445.0	28.6	6.0	7.0	9.1
Central and eastern Europe	0.1	—	2.3	0.1	12.6	0.8	0.1	1.1	2.3
World	553.0	100.0	1,383.0	100.0	1,557.0	100.0	5.2	6.7	6.0

Source: UNCTAD (1997: 267).

Table 2.8 Share of mergers and acquisitions in FDI. Percentage of M&As sales to FDI inflows and M&A purchases to FDI outflows by world region; 1988–90, 1991–93, 1994–96 and 1997–99

World region	*1988–90*	*1991–93*	*1994–96*	*1997–99*
M&A sales as % of FDI inflows				
Developed countries	77.4	67.8	81.3	65.6
Developing countries	24.4	55.7	18.1	37.1
World total	65.2	67.1	56.0	77.1
M&A purchases as % of FDI outflows				
Developed countries	73.4	59.7	55.6	81.7
Developing countries	39.4	84.8	34.0	57.0
World total	63.2	57.9	52.4	79.5

Source: Adapted from UNCTAD (1996 to 2000, annexes).

Note
The M&A data is not fully compatible with the FDI data. Therefore, the ratios must be interpreted cautiously.

Several works have drawn attention to the fact that large amounts of FDI tend to be intra-industry. This means that companies engage in cross-country investment for the production of products belonging to the same industrial group. As with intra-industry trade, intra-industry FDI is not an unambiguous concept because its measurement depends on the definition of industry and the boundaries set for it (Grubel and Lloyd, 1975; Aquino, 1978). Nonetheless there seems to be strong evidence that considerable amounts of both trade and FDI do take place in similar products across countries (Dunning, 1982; Erdilek, 1985; Dunning and Norman, 1986; Cantwell and Sanna Randaccio, 1992).

2.3 Trade and the TNCs

International trade, that is the exchange of goods and non-factor services across frontiers, is still the major component of business transactions. The TNCs are responsible for very large amounts of world trade. UNCTAD (1996) distinguishes between TNC-initiated trade, intra-firm trade and arm's length trade. It estimates that, approximately, two-thirds of world trade takes place on a non-arm's length basis. Moreover, a third of world trade is estimated to take place on an intra-company basis.

The growth rate of trade has recently been overtaken by other components including FDI as shown in the last two rows of Table 2.5. This overall world picture can, however, mask major differences between regions and countries as regards the pattern of sales via trade or via direct production. Some of these differences can be detected from the patterns and trends in Table 2.9, which gives the ratios of sales of foreign affiliates to exports and

Table 2.9 Sales of foreign affiliates as percentages of exports and imports by region. 1982 and 1994

	Percentage of exports		*Percentage of imports*	
	1982	*1994*	*1982*	*1994*
Developed countries	1.61	1.65	1.19	1.28
Developing countries	0.10	0.38	1.05	1.47
Central and eastern Europe	0.01	0.02	0.01	0.34
World	1.05	1.35	1.12	1.30

Source: UNCTAD (1997: 17).

imports for the world and for major areas. In the developed countries, the ratio of sales of foreign affiliates to exports is higher than that for imports. However, the opposite is true for the developing countries. This structure may have various causes. In developed countries, the foreign affiliates may be used by the TNCs more for market sourcing and as sales platforms for other countries. The developing countries may be involved more in international vertically integrated production chains. This means that their inward foreign investment requires the importation of semi-manufactured components from other countries, as well as the importation of capital goods, technology and the services of highly skilled labour.

Trade and foreign direct investment are, in many respects, the most important mechanisms of globalisation and international integration for various reasons. Because of the size of the flows involved; because of the impact that these mechanisms have on other aspects of the economies of the countries involved in them: in particular their effects on production and productive capacity, on employment, on technology and its transfer and on consumers and their tastes. They generate both immediate and longer-term effects on each country and on the relationships between countries.

What is the relationship between FDI and trade? Strictly speaking the theoretical relationship to be analysed should be the one between trade and international production rather than trade and FDI. As pointed out in Cantwell (1994), international production and FDI do not coincide because considerable amounts of production abroad can be carried out without FDI as mature affiliates can rely on local sources of funding rather than investment from the parent company. Nonetheless, FDI can be taken as a very good proxy for international production and the two will be used interchangeably here, though the reader is warned about possible discrepancies.

There is a considerable body of literature on the issue of complementarity versus substitution between trade and international production (Molle and Morsink, 1991; Thomsen and Woolcock, 1993; Cantwell, 1994; Petri, 1994; UNCTAD, 1996). To what extent does direct production in a host country substitute for exports? To what extent does vertical integration

across countries generate more trade? Mundell (1957) uses a neo-classical framework to analyse the relationship between trade and FDI. He does so by considering impediments to trade or to FDI. Trade impediments stimulate factors' movements and therefore international production and FDI, while a restriction in factor movements is likely to stimulate production at home and the sourcing of foreign markets via trade. In this framework with its specific assumptions, trade and FDI are substitutes for each other. This is, to a large extent, due to the fact that they are analysed only in their role as sources of supply for markets. However, this is not the only role of FDI. Cantwell (1994) analyses – more comprehensively – the relationship between trade and international production using three categories of production: (1) resource-based production; (2) market-oriented production and (3) rationalised or integrated international production. He analyses the issue of substitution versus complementarity between FDI and trade.[5]

In case (1) the resource-based international production leads to the specialisation of countries into resource-based economies versus manufacturing- and/or services-based ones. This specialisation pattern generates an increase in trade in the world as a whole. Thus the first type of international production is trade creating.

In the second case, (2), international production appears to replace exports as a means of sourcing foreign markets. Nonetheless, some trade creation is possible if production in the host country enhances the scope for the export of related products from the home country and/or if it gives scope for penetration via export into third countries. An example of this is the case of investment into the UK by US and Japanese companies in view of penetrating wider European markets through exports from the EU. This leads us to a consideration of scope and effects of FDI designed to overcome trade barriers. If there are legal barriers, companies are led to use direct production to source markets which – in the absence of trade barriers and *ceteris paribus* – they might have sourced via home production and exports. Thus the substitution of international production for trade must be seen within the sequence before and after the introduction of trade barriers.

In the third case, (3), integrated international production, the strategy definitely leads to the creation of trade and thus international production and trade are complementary. Both exports and imports increase due to the movements of components for further processing across the world.

The substitution versus complementarity issue between trade and international production raises a variety of collateral issues. First, whatever the time sequence between FDI and trade, many authors agree that the first mode of market penetration is likely to lead to lower transaction costs for the other. Whichever comes first, there is likely to be a sharing of transaction and information costs between trade and FDI at the level of companies (Thomsen and Woolcock, 1993; Petri, 1994).

Second, the time linearity of the relationship may not necessarily imply linearity with respect to the quantum. Molle and Morsink (1991) find a

non-linear relationship between the size of trade and FDI on which they write: 'The relationship between trade and DI appeared to be non-linear; for foreign DI to occur, the trade relations need to reach a minimum level. Beyond that level, more trade integration in the EC does not seem to give rise to larger EDIE flows' (p. 98).[6]

Third, there appears to be a connection between the complementarity/substitution relationship of trade and international production and the type of products produced. An analytical framework based on industries/products is followed in UNCTAD (1996). Companies that want to engage in resource-based activities, thus in primary sector industries, are forced to follow the location of such resources and thus to invest abroad. The markets for the final products may not be in the countries where the resources are. As a consequence, this type of international production leads to trade due to international specialisation.

Manufacturing production is more likely to follow a 'linear sequence' in which market-sourcing strategies based on exports from home production are followed by direct investment and production in the foreign countries where the markets are. The framework is similar to the one set in the international life cycle model (Vernon, 1966): the initial sourcing via exports is followed by direct production leading to substitution between the two. The substitution must be seen dynamically, as a substitution in time and according to specific market-sourcing strategies. The sequence deals with finished consumer products. In the case of intermediate manufactured products we must consider the locational strategies followed. If the companies operate a vertically integrated international production strategy, this will result in trade creation as noted above. In the case of service products, the immateriality and non-storability of the output makes direct production essential for the sourcing of foreign markets. Two points, already mentioned in chapter one, should be considered in this respect. First, the new information and communication technologies are making it possible to provide some services – particularly some knowledge-based products (Quah, 1999) – at a distance, whenever the service can be conveyed by information analysis. Second, the dividing line between manufacturing and services and companies involved in either of the two types of production is becoming more and more blurred due to the new technologies. The two types of production are becoming more and more complementary.[7] This means that involvement in one type of output (manufacturing) by companies, may lead them to get involved in the other (services). Thus the final relationship between trade and international production becomes very complex.

Some of the considerations made here on complementarity versus substitution between trade and international production imply static choices between the two types of market sourcing. Others imply a dynamic time sequence. The market-oriented manufacturing output implies a linear time sequence. However, the speed with which the sequence is implemented depends on many elements and in particular: the life cycle of the product;

the competitive structure of the industry and the position of the company within it; the cost structure of production and in particular the structure of transportation and other spatial costs; the costs of acquiring information on the local markets and local production conditions; the technology used and the evolution of the technology in the life of the product; and the relationship between technology and tradability of the product.

Time and history for both trade and FDI as well as the vintage of FDI seem relevant in stimulating further complementarities between them and therefore in strengthening the integrative process. Time is of relevance also in another aspect of FDI. A large share of world FDI increasingly takes the form of mergers and acquisitions (M&As) as already mentioned in the previous section (cf. Table 2.8). Among the characteristics of acquisitions compared to other forms of penetration into a market and country, is the fact that they are a speedy form; companies can acquire new capacity very quickly by buying up existing firms. Moreover, the restructuring which inevitably follows mergers and acquisitions may involve changes in the structure of international suppliers and customers with effects on the trade pattern of countries.

A considerable amount of world trade takes place as internal exchanges of goods and services within companies, on an intra-firm basis. Intra-firm trade is a strong indicator of internal co-ordination and integration across countries. It is also one that raises important policy issues due to the possible manipulation of transfer prices by companies (John *et al.*, 1997: 59; Grimwade, 2000: ch. 4).

Worldwide, intra-firm trade is estimated to be, approximately, one-third of world trade. The estimates are extrapolations from data of specific countries as there are no comprehensive data on the extent of this phenomenon particularly on the import side. Some countries – namely the US, Sweden, Japan and France – collect data on both imports and exports within companies. Table 2.10 shows intra-firm exports as a share of the country's total exports, for the latest available year, of between 25 and 38 per cent. On the import side, the intra-firm exchanges vary considerably across the four countries with figures between 9 per cent for Sweden and 43 per cent for the US. The US percentage has increased considerably between 1983 and 1993: from 37 to 43 per cent. Chesnais and Saillou (2000) in their detailed analysis of the role of TNCs in trade, report the results of a survey of the Statistical Service of the French Ministry of Industry (SESSI) conducted in 1993. It confirms the very high levels of intra-firm trade for France on both the export and import sides, with much of this trade destined to final markets.

Internal transfers within companies at the international level involve not only goods and services but also technology. There is scanty evidence on the transfer of technology whether at arm's length, through internal transfers or via collaborative agreements. Some evidence can be drawn from the cross-countries payments for technology services available for some countries. Table 2.11 shows the very high percentages of internal transfers for

Table 2.10 Intra-firm trade and its share in total trade. Various countries and years. US$b and percentages

Country	*Intra-firm exports*		*Intra-firm imports*	
	Value	*Share in country's exports*	*Value*	*Share in country's imports*
France[1]				
1993	56	34	28	18
Japan[2]				
1983	33	22	17	15
1993	92	25	33	14
Sweden				
1986	11	38	1	3
1994	22	38	4	9
United States				
1983	71	35	99	37
1993	169	36	259	43

Source: UNCTAD (1996, notes on chapter IV, p 121).

Notes
1 Manufacturing sector only.
2 Primary and manufacturing sectors and 'other services'.

the US in particular: the intra-firm receipts and payments are each over 80 per cent. We must, however, remember that technology transfer is probably the area which gives most scope for transfer price manipulation, given the difficulty of finding exact correspondence between the service transferred internally and the one available on the market. Thus the receipts may not fully reflect the actual arm's length value of the service transferred.

In conclusion, trade, this most traditional mechanism of international integration, is now largely initiated by transnational companies. The TNCs' direct activities and trade are closely interlinked and indeed about one-third of world trade takes place on an internal intra-firm basis. In summary, the TNCs affect both the volume and pattern of world trade.

2.4 Financial investment

Financial investment is the fastest growing of all international transactions. OECD (1994: 18–19) gives the value of the main components of flows of international transactions for the OECD countries as related to: the exchange of goods and services, foreign direct investment, portfolio investment and

Table 2.11 Receipts and payments of technology-related flows in selected developed countries. 1995, total (US$m) and intra-firm (percentage)

Item	*France*	*Japan*		*Germany*		*UK*	*US*	
	Total	*Total*	*Intra-firm %*	*Total*	*Intra-firm %*	*Total*	*Total*	*Intra-firm %*
Receipts	8,571	6,026	39.3[1]	9,911	21.9	5,271	26,953	80.2
Payments	7,739	9,442		12,662	28.3	3,997	6,312	81.6
Receipts − payments	832	−3,416		−2,571		1,274	20,641	

Source: UNCTAD (1997, table I.5: 21).

Note
1 Data on intra-firm flows for Japan relate to the 1992 fiscal year.

investment income. The increase between the averages for the decades 1970–80 and 1980–90 in these flows are respectively: 2.62 (goods trade); 3.45 (services trade); 3.83 (FDI); 10.00 (portfolio investment) and 4.90 (investment incomes).

The financial flows which go under the generic name of portfolio investment cover a variety of transactions ranging from bond issues to bank lending to the acquisition of equities for amounts not large enough to give the buyer a controlling interest in the company.[8] The demarcation line between direct and portfolio investment is usually set at 10 per cent stake: anything above this percentage is considered enough to give the investor a degree of control in the management of the enterprise.

The substantial growth of international financial flows dates back to the switch to flexible exchange rates, the establishment of the Eurocurrency markets, as well as the oil price shock. The take off in the 1970s was greatly enhanced in the 1980s and 1990s by the deregulatory moves and by the introduction of IT which allows 24-hour trading in real time on the world stock exchanges.

The tremendous growth in cross-countries financial activities is well documented in a variety of works. It is possible to gather some indirect evidence through data on the growth of foreign exchange transactions, by itself or in relation to variables of the real economy. Chesnais and Serfati (1994) give the following approximate figures for the average daily transactions of foreign exchanges worldwide in billion dollars: from $200 in 1986 the average figure rises to $400 in 1990 and to almost $1,200 in 1992. Held *et al*. (1999: ch. 4) report ratios of foreign exchange turnover to exports increasing steadily from 1.12 in 1979 to 1.60 in 1995, as shown in Table 2.12.

Other indicators refer directly to the growth of financial activities in relation to other variables. Griffith-Jones (1998) reports that in 1987 the world

Table 2.12 Turnover of foreign exchange and exports. 1979–95 (US$ trillion). Ratios

Year	*Estimated annual foreign exchange turnover*	*World exports*	*Ratio*
1979	17.5	1.5	1:12
1986	75.0	2.0	1:38
1989	190.0	3.1	1:60
1992	252.0	4.7	1:54
1995	297.5	5.0	1:60

Source: Held *et al.* (1999: 209). Cf. this work for the original source.

Table 2.13 International financial deepening: international banking in relation to world output, trade and investment

	1980	*1985*	*1991*
	As a percentage of world output		
Net international bank loans	8.0	13.2	16.3
Gross size of international banking market	16.2	27.8	37.0
	As a percentage of world trade		
Net international bank loans	42.6	80.4	104.6
Gross size of international banking market	86.3	169.7	215.6
	As a percentage of world gross fixed investment		
Net international bank loans	51.1	103.7	131.4
Gross size of international banking market	103.6	219.2	270.9

Source: Akyüz (1995: table 3.3, p. 62). Cf. this work for original sources and notes.

amount of FDI and portfolio investment was roughly the same; by 1993 the latter had outstripped FDI by three times. Akyüz (1995) gives trends for the size of international bank loans and the international banking market as a percentage of three indicators of the world's real economy: world output, world trade and world gross fixed investment. The data for the period 1980 to 1991 is reported in Table 2.13. It shows a very considerable increase in all indicators of financial deepening.

Similarly, Held *et al.* (1999: ch. 3) document the considerable leap in 'extensity' or geographical/spatial reach of financial globalisation of which portfolio investment constitutes a large part. The increase in spatial reach does not mean, however, equality between countries involved in the flows. The inequality of participation to the global financial system is thus summed

up by the authors: 'Developing countries and the transition economies in sum are incorporated into the global financial system, but in a manner that is strongly hierarchical and uneven' (p. 213). In other words the developing countries suffer the consequences of international portfolio investment decisions which are taken by actors in developed countries in their own interest.

It would be wrong to see the growth of international financial activities as separate from the growth of TNCs' activities even if the two are not exactly the same. Chesnais (1997) highlights the financial basis of the contemporary globalisation phase of capitalism and how he sees the enmeshment of financial and industrial capital.[9] Transnational companies participate in the growth of financial activities in a variety of ways. They are heavily involved in M&As, whether domestic or cross-border as discussed in section 2.2 above. There may indeed be a connection not only between large financial flows and M&As but also between financial crises and M&As. UNCTAD (2000: fig. II.22, p. 53) shows that for cross-border M&As in the five Asian countries worst hit by the financial crisis of the late 1990s, the values of M&As in the 1997–99 period was more than double those in the 1993–96 period. Moreover, TNCs are heavily involved in international portfolio investment. Nor should we forget that banks themselves – through which most financial flows are channelled – are transnational institutions.

2.5 Flows of investment incomes across countries: the case of profits from FDI

The flow of FDI and portfolio investment across countries generates a very large amount of investment incomes going in the opposite direction. This is the case whether FDI takes the form of acquisitions of existing capacity or of generation of new productive capacity via greenfield investment. OECD (1994: 19) estimates that for the total OECD countries and over the two decades 1970–90 the values of income from foreign investment (portfolio plus FDI) are approximately twice the value of flows of FDI and portfolio investment. This means that, for some countries, a large share of the new flows of investment can be paid for by the credits on profits.

The TNCs have a role to play in all movements of incomes from investment, be they profit from FDI or portfolio or interest from loans. I shall concentrate here mainly on profits from FDI partly as the main international direct activity of companies and partly because given the long-term nature of FDI, such investment has a cumulative and long-lasting effect on the flow of international profits. The current flow of foreign profits from FDI is related to the stock of capital abroad accumulated via flows of direct investment year after year. Thus the history of FDI involvement by a particular country via the TNCs to which it is home, and via the inward FDI of foreign TNCs plays a key role in the current flow of net profits.

This particular component of integration is interesting and relevant for many reasons including the following.[10] (a) It is a transfer of incomes (or claims over incomes) across countries; (b) it represents a strong intertemporal

dimension in the integration process; (c) it has effects on the balance of payments and on the real sector of the economy; (d) it is a component for which there are considerable differences between countries.

The position of different countries with respect to the flow of profits varies according to whether they are mainly outward or inward investors. The developed countries as a whole are net outward investors and thus net receivers of profits and, of course, the opposite is the case for the developing and CEE countries. However, the developed countries are also receivers of inward investment, indeed the largest share of stock of FDI (approx. 68 per cent: Table 2.3) is directed towards the developed countries. This means that within the developed countries there are considerable differences in the position and pattern of flows of profits: some are net receivers and some are net payers.

A study of the position and pattern of EU countries in relation to the flows of profits from FDI (Ietto-Gillies, 2000a), gives the following picture (summarised in Table 2.14). The EU as a whole is net receiver of profits[11] as shown by a ratio of 1.29 between earnings on outward and inward FDI. Countries with a long history of outward FDI have ratios greater than one (UK, Sweden, the Netherlands and France). Other countries where the tradition of outward FDI is less strong are net payers of profits (Austria, Finland, Greece, Ireland, Portugal and Spain).

In the EU as a whole and for the years 1995–96, the earnings cover 54 per cent of the new assets acquired. On the inward side the corresponding ratio is 63 per cent.[12] A more detailed analysis of the UK position in the same study shows considerable discrepancies in the foreign profits position of the UK with the developed and developing countries. This derives not only from the inward or outward position of these regions vis-à-vis the UK, but also from the different profit rates that companies appear to realise in the two areas.

Thus the TNCs play a strong role in globalisation and integration via the flow of profits from FDI as well as through other international transactions. Moreover, this specific component of international integration has considerable implications for the funding of future FDI as well as for the economies of host and home countries. It is a component for which there are considerable discrepancies between countries and regions and one which has relevant implications for the distribution of income and wealth between countries.

2.6 Integration through movements of labour

The nineteenth and twentieth centuries saw large waves of migration from old European countries to the United States, Canada, Australia, New Zealand and Latin America. Some 60 million people (*The Economist*, 1997: 8) are estimated to have left Europe in search of land and opportunities 'between the middle of the 19th century and the start of the Second World War'. There were also large waves of migration within Europe. Between the two world wars migration dropped and resurged again after 1945.[13]

Table 2.14 Outward and inward FDI and earnings from outward and inward FDI. Ratios. Total EU and member countries, 1988–96. Averages

Country	*Earnings on outward FDI/ earnings on inward FDI*		*Earnings from outward/ outward FDI*		*Earnings on inward/ inward FDI*	
	1988–92 (1)	*1993–96 (2)*	*1988–92 (3)*	*1993–96 (4)*	*1988–92 (5)*	*1993–96 (6)*
Austria	0.27	0.34	0.17	0.23	1.29	0.50
Belgium–Luxembourg	n/a	0.60[1]	0.00	0.52[1]	0.00	0.71[1]
Denmark	n/a	n/a	n/a	n/a	n/a	n/a
Finland	−0.88	0.45	0.17	0.12	0.74	0.64
France	1.23	1.55	0.09	0.23	0.13	0.16
Germany	0.76	1.67	0.25	0.27	1.79	1.31
Greece	0.15	0.29	n/a	n/a	0.10	0.17
Ireland	0.07[2]	0.08	1.24[2]	1.05	3.97[2]	4.82
Italy	0.34	1.62	0.06	0.14	0.22	0.16
The Netherlands	1.16	1.71	0.54	0.61	0.76	0.73
Portugal	0.01	0.26	0.00	0.14	0.03	0.25
Spain	0.16	0.23	0.17	0.12	0.24	0.26
Sweden	5.39	1.66	0.34	0.79	0.21	0.39
United Kingdom	2.09	1.90	0.99	0.93	0.52	0.92
Total EU countries[3]						
ratios	1.29		0.54		0.63	
values	83,462/64,719		83,462/155,003		64,719/102,060	

Source: International Monetary Fund (IMF) (selected issues).

Notes
n/a, not available. 1 Average 1995–96 only. 2 1990–92 only. 3 EU total is average of 1995 and 1996 figures; it excludes Denmark and Greece.

The more recent movements of people and labour exhibit specific patterns, some of which are, to a considerable extent, affected by the activities of TNCs. There are currently large movements of people across frontiers driven by either push or pull factors. An increasing number of people have been, and are, moving to escape wars, ethnic or religious persecutions; others move in search of better economic conditions. Both groups are, often, unwelcome in host countries.

Currently, there are also large movements of skilled/educated labour. Moreover, Johnston (1991) predicts large waves of migration of educated labour from developing to developed regions. He sees the development of a global labour market, particularly for an educated workforce, based on both push and pull factors and due to the following. The developing regions are generating excess supply of labour (both total and educated) in relation to demand. Opposite patterns are present in the developed countries where there is likely to be a shortage of labour supply due to an ageing population and low fertility rates. The higher wages in developed countries will progressively attract an educated workforce from the developing regions. The ease and declining costs of transportation will further facilitate this migration.

A dichotomy has increasingly developed in the pattern of, and attitudes towards, migration. At the far end of the spectrum we have unskilled often illegal immigrants, who work in the informal economy for very low wages and no security. At the opposite end of the spectrum we see elite migrants: highly skilled, highly paid professional and managerial labour moving across industrialised countries as well as between them and the developing countries.

It is interesting to note that the influx of unskilled immigrant labour makes big news thus fuelling the anxieties of unskilled labourers – whether employed or unemployed – in developed countries. Contrary to this, the substantial movements of highly skilled labour goes unmentioned. In fact, this type of labour generates fewer competitive conflicts. Moreover, in terms of motivations, its movement reflects the priorities of both highly skilled workers and employers, thus it manifests in both the supply and demand side of the labour market. On the demand side the strategies of transnational companies play a key role in the international mobility of this type of labour.

Who are these highly skilled workers? They usually belong to the professional, managerial and technical (PMT) group of workers; there are also considerable numbers from the academic world as well as the world of entertainment and sport. There is, on the whole, a glaring paucity of data and information on the extent of labour movements of highly skilled workers/professionals within developed countries and between them and the developing ones. There is, nonetheless, some evidence that the percentage of PMT workers is considerable and increasing. Salt (1991: 487–8) reports an increase of 40 per cent between 1983 and 1989 for this group of immigrants in the Netherlands; this is very high when compared with

a 10 per cent increase in all groups of immigrant workers. A similar situation is reported for Germany where the number of foreign graduate employees increased by 12 per cent between 1977 and 1989 while the percentage for total foreign employees decreased by 8.4 per cent. The study reports also that in Finland there is a much higher percentage of foreigners employed in upper-white-collar positions (compared with all jobs held by foreigners) than in the Finn employed population as a whole where they number 13 per cent.

For the UK, the International Passengers Survey shows (Table 2.15) that the professional and managerial migrants as a percentage of the total employed persons over the 1988–97 period is quite high at around 60 per cent for both inflows and outflows. The five-year means show an upward trend for both inflows and outflows with the inflow means slightly higher than the outflow ones.

A significant amount of movement of highly skilled labour takes place within companies on an internal basis. The TNCs transfer labour between affiliates or between headquarters and affiliates for specific periods of time. Such transfers are classified as migration if their duration is over a year. Salt (1997) estimates at some 47,600, 'the annual total number of corporate transferees involving companies in the UK' (p. 17). As regards the US, for the year 1994 the total number of incoming-only corporate transferees from other countries of the world is estimated to be approximately 98,000; some 46.6 per cent of these originate from Europe. Salt and Singleton (1995: 23) estimate that 47 per cent of all long-term work permit issued in the UK for 1993 were for intra-company transfers. The procedures and regulations for this type of transfer have been eased to encourage labour mobility internally to companies. This is a policy that stems from the position of the UK both as a major recipient and originator of FDI.

The authors' analysis shows the following profile for these internal transfers of labour: the typical expatriate coming into the UK as intra-company transfer is older than other highly skilled expatriates (professional, managerial and technical); is better paid; is more likely to be found in management and administration rather than in education, health or welfare industries. 'Americans and, especially, Japanese, are more likely to be corporate transferees than other nationalities' (p. 27). Their destination within the UK is more likely to be London and the Southeast of England than for other expatriates with comparable skills. These patterns are, of course, consistent with the pattern of inward FDI in the UK, both in terms of the nationality of the foreign investor and in terms of the location of a large share of inward FDI in the UK.

The trends in UK inward corporate transfers over the period 1985–96 are analysed by Salt (1997) using the data from the Labour Force Survey. The following results are of particular relevance here. Of the total persons transferred during the eleven-year period, some 50 per cent are UK nationals being repatriated. Of the foreign nationals – the other 50 per cent – just

Table 2.15 UK international migration by occupation. Estimates from International Passenger Survey, 1988–97. Inflows and outflows. Thousands and percentages

Year	*Inflow*			*Outflow*		
	All persons	*Employed persons as % of total*	*Professionals as % of total employed persons*	*All persons*	*Employed persons as % of total*	*Professionals as % of total employed persons*
1988	216.0	51	60	237.2	50	57
1989	249.8	50	61	205.4	58	59
1990	266.8	55	64	230.8	57	57
1991	266.5	51	59	238.9	55	62
1992	215.9	50	59	227.0	57	64
1993	213.4	51	61	215.9	53	61
1994	253.2	55	59	190.8	54	53
1995	245.5	54	65	191.6	54	60
1996	272.2	54	61	216.1	60	64
1997	284.6	48	68	224.5	59	64
Means						
1988–92	243.0	51.4	60.6	227.9	55.4	59.8
1993–97	253.8	52.4	62.8	207.8	56.0	60.4

Source: Office for National Statistics (1997: table 2.7).

over a quarter are from EU countries. In terms of professional breakdown, by far the largest group (67 per cent) of all corporate transfers belong to the professional and managerial class.

The year-to-year pattern shows a steady decline in the total number of transfers, which move from 29,004 in 1985 to 21,925 in 1996. There may be several reasons for this downward trend. The high costs of relocation may play a part; the increase in dual-career families makes it more difficult to find volunteers for the expatriate jobs. Moreover, the new technologies and the ease of transportation and communication make it easier to use the skills of managers and professionals through a mixture of short assignments and distance communications.[14]

The gender composition of the persons transferred during the same period shows a steady decline in the percentage of males, which moves from 90 per cent in 1985 to 74 per cent in 1996. Interestingly, the female participation is highest among transfers from the EU than from other nationalities. One possible reason given for this pattern is the fact that the more integrated market of the EU makes it easier to find jobs for the trailing husband.

In summary, the TNCs play a major role in the movement of labour – particularly highly skilled and educated – across countries and this contributes to shape the configuration of globalisation worldwide.

2.7 Inter-firm partnerships and internal networks

Two further major developments in the last two decades have contributed to the globalisation process. The first one is the growth in inter-firm partnerships across frontiers and the second one is the deepening of internal links within different parts of the same company operating across countries. The TNCs are crucial to both these developments.

There has been a steady increase in inter-firm agreements (Hladik, 1985; Contractor and Lorange, 1988; Hergert and Morris, 1988), particularly in the last two decades. Hagedoorn (1996) in a study of newly established partnerships from 1970 to 1993 reports an increase from less than 50 a year in the early 1970s to over 550 in the late 1980s and in 1993. By far the biggest share in these partnerships relates to industries involved in the new core technologies such as biotechnology, information technology and new materials.

A large percentage of inter-firm agreements take place across borders. In fact, the number of cross-border strategic technology partnerships increased from nearly 280 in 1991 to 430 in 1993 (Hagedoorn, 1996: 602). Data on the number of technology alliances in new technologies in the 1970s and 1980s is reported in Table 2.16. Of the total 4,619 partnerships, by far the highest number is in information technology (2,718). The preferred form of partnership appears to be 'Joint R&D'.

Freeman (1992: 101) reports that 90 per cent of agreements are between countries of the Triad (the EU, US and Japan). However, Narula (2000)

Table 2.16 Forms of technology alliances in new technologies, 1970–89. Cumulative total numbers of cases and percentages

Form	*Biotechnology*		*Information technology*		*New materials*		*Total*	
	Total	*%*	*Total*	*%*	*Total*	*%*	*Total*	*%*
Joint research venture	164	13.5	458	16.9	177	25.7	799	17.3
Joint R&D	362	29.8	749	27.6	173	25.1	1,284	27.8
Technology exchange	84	6.9	328	12.1	54	7.8	466	10.1
Direct investments	234	19.3	357	13.1	65	9.4	656	14.2
Customer–supplier relations	186	15.3	245	9.0	42	6.1	473	10.2
Uni-directional technology flows	183	15.1	581	21.4	177	25.7	941	20.4
Total	1,213	100.0	2,718	100.0	688	100.0	4,619	100.0

Source: UNCTAD – Division on Transnational Corporations and Investment (1995, table III.5, p. 156).

finds that the Single European Market has not led to technological partnerships between EU firms. 'Instead, EU firms have shown a continued propensity to undertake EU–US and EU–Japanese R&D collaboration, particularly in information technology, bio-technology and new materials sectors' (p. 188).

The partnerships can take on a variety of organisational forms ranging from subcontracting to alliance or licensing. Freeman (1992: ch. 5, p. 99) lists ten different types of innovation networks according to their organisational form. While most partnerships are between private businesses, some may involve public institutions. Many R&D partnerships involving TNCs are with universities and research institutes.

Whatever their form and the reasons for their establishment,[15] inter-firm partnerships are exercising a strong integrative function across frontiers. Even stronger is the integrative role of cross-country internal networks to which the TNCs give scope. There is some evidence of considerable amount of intra-firm planning and co-ordination across countries on human resources strategies.

Inference on this aspect can be drawn indirectly from the evidence on intra-firm trade (section 2.3 above) and more directly from studies of companies' behaviour. One such study is the survey of companies conducted in the UK by the Industrial Relations Research unit (IRRU) at the University of Warwick in 1992. The survey relates to companies employing 1,000+ people and with at least two operating sites in the UK (Leisink *et al.*, 1995). An analysis of the results is in Marginson *et al.* (1995). The following information is given regarding the international co-ordination of production and the international provision of goods and services on an internal basis (p. 182):

> Thirty-two per cent of all companies reported either that production activities in the UK were integrated with those in other countries, or that the provision of services was networked across countries. Twenty-three per cent reported that sites in different countries supply each other at internally administered prices, and 11 per cent in competition with external suppliers. Thirty-four per cent said there were no trading relations between the UK enterprise and operations elsewhere in the world.

The study focuses particularly on the organisation of personnel and industrial relations across countries though within the company. It states that: 'Thirty six per cent of companies reported that they had a worldwide personnel committee . . .' (p. 183). It is also reported that 70 per cent of companies collected data on various indicators of labour performance centrally, at the level of headquarters. The data included indicators of costs, productivity, labour turnover and absenteeism.

In this chapter I have given some evidence on the rise of the so-called 'network firm'. The next chapter develops a theoretical framework for the

analysis of networks, while chapters four and five present empirical evidence on the locational dimension and pattern of internal networks across countries.

2.8 Conclusions

This chapter is devoted to the analysis of evidence on cross-country flows of transactions with specific reference to the involvement by TNCs in them. Section two gives data on the growth in the number of TNCs worldwide and in the pattern of location of their affiliates and their direct activities broken down by country and region.

The following flows are discussed in both their theoretical and empirical aspects: FDI, trade, portfolio investments, movements of profits from FDI across countries, migration of highly skilled labour, inter-firm collaborative agreements and the deepening of internal networks.

As mentioned in section 2.7 the organisation of production has undergone considerable changes in the last two decades. The boundaries between firms and markets have become rather flexible leading to the formation of so-called business networks. The flexibility takes on a variety of dimensions that will be analysed within an overall theoretical framework in chapter three. Particular attention will be given to the geographical dimension of business networks. Thus chapters four and five will present empirical evidence on recent internal networks across countries for the largest world TNCs (chapter four) and trends for the largest UK TNCs in manufacturing for the last thirty five years (chapter five). The analysis and evidence of the present chapter and of part two will be used in the third part of the book to analyse the theoretical implications of the twin patterns of integration and fragmentation for the explanation of international production.

Part II

The widening reach of the TNCs

You ask me what it is I do. Well actually, you know,
I'm partly a liaison man . . .
Essentially I integrate . . .

Betjeman (1906–84), *Executive.*

3 Networks and the TNC
A theoretical framework

3.1 Introduction

This second part of the book is devoted to an analysis of the networks established by companies and in particular by transnational companies. The present chapter considers how the firm's objectives and constraints affect the pattern of firms' networks. The next two chapters analyse the empirical evidence on the internal cross-country networks of TNCs.

Contemporary writings on business, the economy or society in general, contain a good deal of research on networks and the network society (Freeman, 1992; Grabher, 1993; Castells, 1996; Hagedoorn, 1996; Dunning, 1997, 1998; Ebers, 1997). Both theoretical and applied aspects of networks figure prominently in the literature. In many business/economics writings the expression 'business networks' is used to indicate a large variety of inter-firm or inter-organisational partnerships. These may refer to vertical relationships (backward or downward linkages) or to relationships between firms involved in the same or similar product lines and, in general, at the same stage in the value system.

The inter-organisational network has usually been seen as a business organisational form to be compared and contrasted with the other two major forms: firms/hierarchies and markets. Inter-organisational networks are therefore seen as having an intermediate position between hierarchies and markets. Easton and Araujo (1997: 67–8) consider '. . . Inter-organizational networks to refer to modes of economic co-ordination characterized by dense and relatively stable patterns of economic exchange, embedded in concrete time–space and institutional contexts.'

Richardson's perceptive analysis (1972) places inter-firm networks in the context of the organisation of industry and the division of labour within it. He considers the need for qualitative and quantitative co-ordination of complementary activities within an industry and writes: '. . . this co-ordination can be effected in three ways; by *direction*, by *co-operation* or through *market transactions*. . . . Co-ordination is achieved through co-operation when two or more independent organisations agree to match their related plans in advance' (p. 890).

More recent studies of inter-organisational networks have tended to focus on the network itself: its relational basis, the motives for its establishment, its patterns, its co-ordination mechanisms, its costs and performance (Grabher, 1993; Hagedoorn, 1996; Ebers, 1997). Implicit in this type of analysis are two assumptions: (1) that networks are inter-firms or inter-organisations, and that (2) the partners in the network have equal power.

The recent research on inter-organisational networks has contributed substantially to our understanding of the organisation of production in its economic and social aspects. However, there are limitations due, in particular, to the following reasons. It is not possible to identify when the networks are indeed inter-organisational as it is not always easy to establish when an organisation/firm is independent. Also, there are other types of networks that the firm/organisation may establish to help achieve its objectives.

For these reasons the approach presented here starts from the premise that the wide variety of networks of which the firm is at the centre, are linked to the fact that the boundaries of the firm itself have become increasingly blurred and flexible. The chapter starts by presenting a framework for the analysis of networks in which the firm's boundaries are 'fuzzy' with respect to three dimensions: organisational, locational and proprietary. This framework is then used to analyse the firm's choice of network configuration within and between these dimensions. It is argued that such a choice depends on a variety of strategic objectives, efficiency constraints and perceived scope for control. The key elements in the analysis presented here are, therefore, the following: (a) the role of strategic objectives, constraints and scope for control in the choice of the firm's network configuration; (b) a three-dimensional framework for the analysis of networks within which the firm's choice are contextualised.

This theoretical approach allows us to: (a) analyse different network dimensions (organisational, locational and proprietary dimensions) and consider the interactions between them as well as their relevance for the TNC; (b) consider the extent to which different dimensional networks endow the firm with specific advantages or costs; (c) analyse whether specific capabilities acquired in the context of one type of network can help the firm in the establishment and performance of different networks; (d) assess whether the ability to manage complex networks may itself become an ownership advantage or whether the complexity of multidimensional networks may be an obstacle to the achievement of the firm's objectives; (e) distinguish between various sets of possible elements behind the choice of specific networks and in particular: the strategic objectives that the firm sets itself, its efficiency constraints and opportunities, and the scope for control that the network affords. The distinction between these various elements allows us to: (f) analyse the role that each set of elements plays in the choice of dimensional configuration and, conversely, assess how effective a specific dimensional configuration may be in achieving specific strategic, efficiency or control objectives.

As regards the TNC – the key focus of this book – the analysis of this chapter will help to highlight the advantages of various types of networks in which the TNC is involved. The modern transnational company can therefore be considered in the context of the different network dimensions in which it is involved. The next two chapters (four and five) will, in particular, give empirical evidence on the locational dimension combined with some evidence on the proprietary one. The theoretical and empirical analysis of this second part of the book will be used in part three to develop a theory of the TNC, which stresses the advantages of operating across nation-states.

The present chapter deals mainly with firms though the network concept in general applies to wider organisations in both the private and public sector.[1] The chapter proceeds with an analysis of the different ways in which the boundaries of the firm can be considered blurred, or 'fuzzy', as I shall call them. Three dimensions of fuzziness are considered in section 3.2: locational, organisational and proprietary fuzziness. Section 3.3 presents a range of typologies within each dimensional configuration. Sections 3.4 and 3.5 analyse the choice of network configuration in the light of the firm's strategic objectives, efficiency constraints and scope for control. Section 3.6 discusses possible uses and applications of the framework and section 3.7 summarises the key findings.

3.2 Fuzzy boundaries

Over the last twenty-five years the organisation of production has undergone considerable changes. The ball started rolling with moves towards flexible production systems, casualisation of labour and a less hierarchical organisational structure of the firm. A gradual increase in inter-firm partnerships followed in the 1980s. These changes have been greatly enhanced and accelerated in the last fifteen years by the development and diffusion of information and communication technologies (ICTs).

As a result of all these changes the pre-1970s vertically integrated firm has, to some extent, been replaced by a new type of firm where horizontal integration is more likely to be found and where rigid mass production has been replaced by more flexible production systems. High volumes of production, which bring economies of scale and scope, are still relevant and large companies are very much in control (Cowling and Sugden, 1987a, b; Harrrison, 1994 cited in Castells, 1996; Dunning, 1997: 78). However, their business activities are organised in a more flexible way, which involves – among other things – working more closely with other firms as well as producing internally.

The changes encompass a variety of developments, which range from employment contracts to inter-firm collaborative agreements to location of production to assets ownership. One thing they all have in common is the fact that all these changes lead to less well-defined boundaries of operations

of the firm. The boundaries that have been evolving in the last twenty-five years have acquired a 'fuzzy' character. The Collins English dictionary defines 'fuzzy' as 'indistinct; unclear or distorted'. In our context the adjective 'fuzzy' is used in the following meanings which cover a variety of situations.

(a) Indistinct, indeterminate, rugged, blurred, lacking sharp edges/borders/boundaries;
(b) flexible at any given time and/or through time;
(c) expanding in a variety of directions and through a variety of dimensional patterns.

The term fuzzy is used here rather than the more usual blurred or flexible[2] to convey the idea that the boundaries are not just indeterminate and blurred, they have become also more flexible and expanding in a variety of dimensions. The 'fuzziness' of the boundaries can, in fact, have *locational, organisational* or *proprietary/asset ownership* dimensions. Some examples from economic and social life situations will illustrate these meanings of fuzziness within each dimensional characteristic.

Let us start with *locational* fuzziness and thus with the evolving locational boundaries of the firm as a first example. The locational fuzziness can be looked at with respect to (i) the relationship with the workforce that produces the firms' products; (ii) the location of production; (iii) the relationship with the buyers of the firm's products. As regards the relationship with the workforce (i), considerable changes are already taking place and all the indications are that they will accelerate in the future. In the pre-ICTs era, a contract of employment with a firm or other private or public institution usually involved performing one's duties mainly in a specific locality (be that the factory or office) with which the firm was spatially identified. Now whatever the nature of the employment contract – full or part-time, permanent or temporary – an increasing amount of work can be done at a distance, for example from the employee's home. Thus the identification of the firm/institution with a locality has broken down and so the locational boundaries of the employment relationship have become more indeterminate. This is the case even when the contract of employment is no different from what it might have been thirty years ago; for example when it is a full-time contract on a fairly permanent basis.

The second element of locational fuzziness (ii), is in relation to the expanding territory of operations of the firm and in particular to its expanding multinational domain. Most large firms now operate across national boundaries either as a direct producer in other countries or as exporters or via linkages with local suppliers or distributors. This type of spatial expansion across nation-states involves mainly big firms. However, smaller firms participate in this process in various ways. First, because an increasing number of smaller firms are also becoming transnational. Second because many smaller firms

co-operate in a variety of ways with large firms in cross-border activities (Fujita, 1995; Molero, 2000). Third, because groups of small firms linked horizontally may co-operate in developing strategies of multinational reach for the group as a whole (Cowling and Sugden, 1998).

The third element of locational fuzziness (iii), relates to the relationship between the firm and its customers. Until recently, most consumers would go to the distributors, select the products and either carry them away themselves or have them delivered. On-line shopping is gradually introducing a different relationship; one in which the selection and ordering of the products – by both business and non-business customers – increasingly takes place away from the location of the firm and its products.

What about *organisational* fuzziness? Again there are various aspects to this element. From the perspective of the firm and other institutions the following should be mentioned. The relationship between people working for a particular firm and contributing to its output has undergone considerable developments and is still in the process of change, in several respects. First, because the employment contracts are no longer – or not only – full-time and permanent as in the pre-1970s decades. Alongside traditional contracts we now have a variety of temporary and/or part-time contracts, which have led to a casualisation of labour (Friedman, 1977; Solinas, 1982; Atkinson and Gregory, 1986) in many industries and in many countries throughout the world. This has brought about an organisational ruggedness and flexibility in which the boundaries of relationships between the firm and its labour force have become more 'fuzzy'.

Moreover, there is a wider organisational fuzziness of the boundaries of firms due to the fact that an increasing number of people working for a firm and contributing to produce its products may not be employees of the firm itself. They may be subcontracting homeworkers or people working for a subcontracting firm that is supplier or distributor to the main firm/organisation.[3] The first case involves an external contractual relationship with a worker; in the second one the external contract is with another (usually smaller) firm which employs labour (Buckley and Casson, 1998a).

The *proprietary/asset-ownership* fuzziness refers to the fact that, increasingly, companies acquire control of business facilities and are involved in production activities via partial as well as full ownership. This process is enhanced by the high rate of acquisitions and disposals, which gives the companies control of activities though their ownership of the relevant assets may only be partial. Moreover, partnerships with other firms – whether on a vertical or horizontal basis – may or may not have an equity element in them. Yet these partnerships are affecting the sphere of influence, control and capabilities of the firm. Their effects are such as to lead Dunning (1997: 89) to write: '. . . the traditional assumption that the capabilities of the individual firm are limited to its ownership boundaries (and that, outside these boundaries, factors influencing the firm's competitiveness are exogenous to it) is no longer acceptable whenever the quality of a firm's efficiency-related

decisions is significantly influenced by the collaborative agreements it has with other firms'. Similarly, Cowling and Sugden (1987a, b, 1998) develop a new definition of the firm based on the sphere of control rather than the ownership boundaries (as we shall discuss in section 3.5).

Two further points should be mentioned. First, many of the changes highlighted here involve not only firms in the private sector but also many institutions in the public sector or those that have an intermediate public/private position. Second, some of the organisational and locational changes have preceded the advent of the ICTs. The new flexible production methods and related outsourcing of stages of the production process go back to the 1970s (Atkinson and Gregory, 1986; Oman, 1994; Castells, 1996) before the ICT revolution. Similarly, multinationality goes back a long way (Jones, 1996) before the introduction of ICTs. However, in both cases the ICTs as well as the improvements in the technology and cost of transportation have greatly enhanced the process for both the locational and organisational dimensions. In fact, it could easily be claimed that some of the developments highlighted here date back over a century. The putting-out system is nothing new, neither is subcontracting or multinationality of production. The point, however, is that the changes have all accelerated; they are now extensive, cumulative, multi-dimensional and they affect each other. Quantitative changes are leading to substantial qualitative changes, which affect the nature of the firm and the nature of business governance, the organisation of industries and the division of labour within them.

There are also major developments connected with boundaries, linkages and networks at the macro, social and political levels. For a start, the boundaries of many nation-states have been changing with the evolving political situations particularly in central and eastern Europe. In other parts of the world the boundaries of governance and its forms have undergone changes either because of the formation of regional blocs – as in the EU – or because of devolution policies within the nation-state as in the case of the UK.[4]

There is also another sense in which the boundaries of the nation-state are becoming looser. The population movements across countries – which were mentioned in section 2.6 – have led to the increasing formation of multi-ethnic societies in many countries. This means that communities retain strong linkages and allegiances with similar communities across the borders of nation-states (Castells, 1997; Held *et al.*, 1999). Moreover, the use of ICTs facilitates the networking across space and borders of a variety of groups linked by political, religious, academic or other interests. It could be pointed out that strong bonds between groups and communities linked by religion, ethnic/national origin or ideologies across national boundaries are nothing new in history. This is true, but what is new is the fact that those linkages can now manifest themselves in communication flows that move much faster. They can also take place more often and on a more personal basis owing to the lower costs of communication and transportation.

3.3 The network firm: typologies within dimensional configurations

The institution whose boundaries have become most fuzzy is the firm and, in particular, the modern large transnational firm. Fuzzy boundaries are part and parcel of an increased variety of networks in which the firm is involved. These business networks can be seen as ties, linkages within different units of the firm or between the firm and outside institutions. To each dimension and element of fuzziness considered in section 3.2 correspond specific types of dimensional configuration of networks. Thus the network has an *organisational* dimension as in the case of networks between the firm and its casual labour, its homeworkers or subcontractors or franchisees or joint-venture partners. The network may have a *locational* dimension that allows the distinction between spatially differentiated production or distribution points. The network may be between units linked by different asset *ownership* arrangements.

Table 3.1 illustrates the various network typologies within the above dimensions. Corresponding to each of the three dimensions we have three sets of typologies characterised, respectively, by the following: different degrees of internalisation/externalisation; various degrees of locational/spatial concentration or fragmentation and various degrees of proprietary/asset ownership configuration.

On the organisational side it is possible to have various degrees of externalisation (A to D) in relation to labour only (A and B) and to overall production activities (C and D). Type C and D arrangements are the ones usually studied under inter-firm partnerships.[5] They embrace all stable, long-term contracts with suppliers and distributors along the vertical chain of production. They also include partnerships between firms operating horizontally along the same or similar product lines or at the same stage in the production chain.[6] The organisation of production in A and B falls under what Richardson (1972) considers 'the direction way' while that in C and D falls under his category of co-operation.

The second dimension considers the spatial profile of networks at either the intra- or international (E to H) level. The scope for geographical dispersion of the firm's production activities has been enhanced by: (a) the gradual reduction in the cost of transportation and communication and (b) the introduction of flexible production processes in which smaller production units – in the context of large-scale production and business activities – allow the achievement of both scale and scope economies. Both developments have pushed towards a spatial fragmentation of production. They have therefore enhanced the removal of some constraints to the internationalisation of production.[7] The growth of the TNCs and their activities has led to an increasing scope for internal networks across national boundaries. However, the international networks can take also an external organisational dimension

Table 3.1 The modern firm and its fuzzy boundaries. Dimensional configurations and typology

Organisational dimension (in descending order of internalisation degree)	*Locational dimension (in descending order of geographical concentration)*	*Proprietary/asset ownership dimension (in descending order of ownership stake)*
A. Permanent, full-time labour contracts.	E. Single or few production locations. Employees work in factory/office.	I. Full ownership of assets.
B. Homeworking; putting-out work; casual labour.	F. Work from home.	J. Partial ownership with majority or controlling stake.
C. Subcontracting; licensing; franchising.	G. Domestic, multi-plant locations.	K. Partial ownership with non-controlling stake.
D. Inter-firm partnerships. Vertical type (stable contracts with suppliers/ distributors) or horizontal type (joint ventures; alliances; co-operatives).	H. International production.	L. Non-equity agreements (vertical or horizontal type).

as in the case of cross-country inter-firm partnerships. They can also be vertical or horizontal and be based on different ownership stakes of assets. The scope for business activities with a variety of proprietary stakes of the assets involved in those activities is illustrated in the third column (I to L).

The firm can choose an overall configuration corresponding to a variety of positions along the internalisation/externalisation spectrum in the organisational dimension; along the locational spectrum and along the assets ownership spectrum. Indeed the firm may have a variety of networks within each dimensional configuration. The typical, traditional hierarchical pre-1970s firm would have all its labour force on permanent, full-time contracts. It would be located – largely – in one or few production sites to benefit from economies of scale. Its assets would be fully or majority owned. This is illustrated by the first row in each of the three dimensions in Table 3.1. All the other rows in the three columns of Table 3.1 involve fuzzy boundaries and networks with an organisational and/or locational and/or proprietary dimension. The various dimensions of networks are not mutually exclusive and, in fact, many large companies are likely to exhibit an overall network configuration with elements of all three dimensions. The large companies may have subcontracting or franchising relationships with smaller companies while being involved in collaborative agreements with large competitors. They will operate some of these external vertical or horizontal networks at the international level (Germidis, 1980; Michalet, 1980) and some at the national level. At the same time they will all have internal organisational networks between different plants or subsidiaries wherever they are located. The networks may involve full or partial ownership of assets.

The fuzziness of the firm's boundaries thus produces two related effects. First, the fact that the modern firm becomes involved in a variety of network relationships with different dimensional configurations and different degrees of externalisation, locational fragmentation and ownership stakes within each dimension. Second, it becomes difficult to demarcate between hierarchical and market relationships, as pointed out in Richardson (1972).

The concept of the business network developed here differs from the concept of the inter-organisational network for the following reasons. First, because the business networks considered here allow us to incorporate specifically and separately the three key dimensions of fuzziness and fragmentation: the organisational, locational and ownership dimension, respectively. Second, because they allow us to consider various degrees within each dimension and in particular various degrees of internalisation/externalisation, geographical concentration and ownership stakes. They therefore allow us, for example, to recognise that spatial fragmentation, particularly across national borders, gives rise to a specific set of linkages and networks even when the assets are fully owned by the same firm. The inclusion of the assets proprietary dimension cuts across the issue of whether non-equity partnerships (such as non-equity joint ventures) should or should not be included in

inter-organisational networks. In the framework presented here they are all included and their non-equity characteristic is considered as a typology within the relevant dimension.

Each of these three dimensions and each typology within them, gives the firm specific capabilities and it may also generate specific problems and costs. The firm's cohesiveness and ability to control activities may depend on the level of overall fragmentation in all three dimensions. To keep control of its overall activities, flows of resources and information and to strengthen its cohesiveness, the firm may have to set up formal co-ordinating mechanisms. Such mechanisms may be needed to deal with casual labour, subcontracting or franchising arrangements and wider inter-firm partnerships as well as with geographical dispersion.

3.4 Strategic objectives and efficiency elements in the choice of networks

What determines the choice of a specific network configuration on the part of a firm?

The standard reasons usually given for the increase in stable inter-firm partnerships of the vertical type is the increase in flexibility and the saving on transactions costs – compared with arm's length contracts – to which they give scope. The move from arm's length market-based relationships has been explained mainly via the need to overcome market imperfections and associated transaction costs.

Most literature dealing with the choice between internalisation and externalisation of the firm's activities, emphasises efficiency elements in the choice between the two growth strategies. Building on some elements in Coase (1937)[8] and following the further developments by Williamson (1975, 1981) and the applications to the MNC (McManus, 1972; Buckley and Casson, 1976; Rugman, 1981; Hennart, 1982), transaction costs analysis[9] has been used to explain growth via internalisation and hierarchy rather than via the market at both domestic and international levels. Several authors criticise the transaction cost approach to networks (Grabher, 1993). Ebers and Grandori (1997) point out that there are relevant costs besides the transactional ones in inter-organisational partnerships.

A wider view is taken here not only of networks themselves (as developed in the previous section) but also of the motivations for (and the constraints to) their establishment. Efficiency constraints – of which transaction costs are part – are seen as only one of the sets of elements affecting the choice of network dimension. There are, in particular, relevant strategic elements[10] as well as issues of control that should be considered among the motivations leading to a specific configuration.

I propose here to make the choice of network configuration – with its dimensional characteristics and degree of internalisation, geographical

concentration and ownership stake – dependent on the following *three sets of objectives* of the firm: *strategic, efficiency* and *control objectives*.

The *strategic objectives* are those objectives that emerge from the firm's own strategic directions in relation to markets, competitive environment or production processes. The following ones seem particularly relevant:

1 Flexibility towards fluctuations in demand.
2 Strategies towards rivals; increase in market shares.
3 Penetration of new markets. Products and or geographical diversification.
4 Power towards labour.
5 Risk minimisation and risk sharing.
6 Acquisition of knowledge.

The choice of configuration and the achievement of strategic objectives depend also on *efficiency elements,* in particular the following ones:

1 Transaction costs of operating on the market.
2 Managerial costs.
3 Costs of co-ordination.
4 Advantages of using internal firm- and asset-specific resources.

The managerial costs refer to the costs of managing the flows of resources and information once the network is in place. The constraint here is seen in terms of shortage of managerial capacity. However, if the firm has surplus managerial capacity which it wants to retain it may set itself the objective of finding outlets for its full utilisation. The co-ordination costs refer to the costs of establishing and managing the networks. Some of these costs can be considered as transactional. The specificity of assets may lead to higher productivity of resources used internally compared with external activities which rely on non-specific assets. Asset-specificity becomes one of the key elements in the efficiency approach to the employment relationship[11] (Penrose, 1959, 1987; Williamson, 1981).

Table 3.2 highlights the relationships between dimensional configuration, and strategic objectives. Table 3.3 considers the relationship between efficiency elements and dimensional configuration. Both tables attempt an assessment of the typologies from Table 3.1 in terms of their ability to achieve the stated objectives. The types are therefore grouped in those having 'high' or 'low' potential to achieve the objective.

Table 3.2 illustrates the following. The *strategic* objective of achieving flexibility vis-à-vis fluctuations in demand[12] can be tackled through a variety of networks within the organisational dimension (homeworking; subcontracting; inter-firm partnerships) or within the locational dimension (international diversification of markets).[13] Strategies of product diversification – not illustrated in the table – may also help to achieve this objective. The penetration of new (by country or product) markets may be enhanced

Table 3.2 Dimensional configuration and potential for achieving specific strategic objectives

Strategic objectives	*Organisational dimension*		*Locational dimension*		*Proprietary/asset ownership dimension*	
	High[1]	*Low*[1]	*High*[1]	*Low*[1]	*High*[1]	*Low*[1]
Dealing with fluctuations in demand	Home work; subcontracting; vertical inter-firm partnerships. (B, C & D)[2]	Permanent, full-time contracts. (A)	International diversification of markets. (H)	Narrow localisation of markets. (E & G)	n/a[3]	n/a
Increase in market shares Market penetration	Specific horizontal inter-firm partnerships. (D)	n/a	International production. (H)	Domestic only markets. (E & G)	n/a	n/a
Strategies towards labour	Casual labour; subcontracting; vertical inter-firm partnerships. (B, C & D)	Permanent, full-time labour. (A)	International production. (H)	Limited and domestic only production location. (E & G)	n/a	n/a
Sharing of risks	Inter-firm partnerships. (D)	All others. (A, B & C)	n/a	n/a	Partial ownership and non-equity agreements. (J, K & L)	Full ownership. (I)
Acquisition of knowledge	Inter-firm partnerships. (C & D)	(A & B)	International production. (H)	(E & F)	n/a	n/a

Notes
1 High and low indicate the potential for achieving the specific strategic objective. 2 The letters in brackets refer to the typology in Table 3.1. 3 n/a, not applicable.

by inter-firm partnerships. Indeed, in some host countries the entry mode via joint ventures with local firms may be imposed on the foreign firm by government regulations.

What about the strategic objective of increasing the balance of power over labour? The internalisation drive and the hierarchical governance of the pre-1970 decades created several problems for capital. In particular the fact that labour working under the same ownership umbrella – often in single or well defined locations – found it relatively easy to organise and press for better pay and working conditions (Ietto-Gillies, 1992: ch. 14). The flexibility offensive of the 1970s was to a large extent designed to counteract the power of organised labour by the development of organisational networks in which labour found it more difficult to organise itself. The firm can achieve this objective through externalisation strategies in the first place.

However, externalisation produces its own problems in terms of efficiency constraints (quality controls, costs of co-ordination or transactions costs as highlighted in Table 3.3). Another strategic network dimension, which may help achieve the same objective – lowering the power of labour – is internationalisation. Labour finds it more difficult to organise itself across nation-states even when working for the same company and thus under the same ownership umbrella (Ietto-Gillies, 1992: ch. 14).[14] This issue is the subject of part three and in particular of chapter six in this book.

The need to reduce uncertainty and risks is a relevant strategic objective in the context of a rapidly changing environment. Buckley and Casson (1998a) stress the relevance of information collection and acquisition in order to reduce uncertainty. They also stress that such collection can be costly, particularly in terms of managerial time. Horizontal and stable inter-firm partnerships allow the firm to share risks and costs with other firms. As do strategies of partial ownership or non-equity contracts.[15] The risks may relate to the development of new products and processes and to R&D in general, or to the penetration of new markets/locations. In fact the three dimensions of fuzzy boundaries can be considered also as possible dimensions of diversification: organisational, locational and proprietary diversification. Each separately and in combination may help to reduce risks for the firm.

The acquisition of knowledge is becoming a relevant strategic objective in the knowledge-based firm and society. Knowledge may be the result of research and development or may refer to information about markets and costs conditions. An international joint venture may give the company vital information on the market, culture and business environment of foreign countries and this facilitates market penetration.[16] The large and increasing number of joint R&D ventures also point to the relevance of knowledge acquisition and risk spreading for the establishment of networks (cf. section 2.7).

Any configuration must also be assessed according to *efficiency* elements (Table 3.3). A firm that faces labour conflicts and wants to check the power of organised labour may resort to externalisation if the issues of product

Table 3.3 Dimensional configuration and efficiency elements

Efficiency elements	*Organisational dimension*		*Locational dimension*		*Proprietary/asset ownership dimension*	
	High[1]	*Low*[1]	*High*[1]	*Low*[1]	*High*[1]	*Low*[1]
Transactional costs	Subcontracting etc.; inter-firm partnerships. (C & D)[2]	Permanent, full-time contracts. (A)	n/a[3]	n/a	n/a	n/a
Managerial costs	Permanent contracts; casual labour. (A & B)	Subcontracting; inter-firm partnerships. (C & D)	International production. (H)	Domestic only production. (E & G)	n/a	n/a
Co-ordination costs	Inter-firm partnerships. (D)	All others. (A, B & C)	n/a	n/a	Partial ownership and non-equity agreements. (J, K & L)	Full ownership. (I)
Asset-specificity advantages	Internalisation. (A)	Externalisation. (C & D)	n/a	n/a	n/a	n/a

Notes
1 High and low indicate the potential for costs or advantages. 2 The letters in brackets refer to the typology in Table 3.1. 3 n/a, not applicable.

quality and transaction costs are not too relevant. However, if the firm wants to keep a high level of internalisation (for example to ensure that firm-specific knowledge remains internalised) then a strategy of internationalisation via direct production abroad may be preferable to high levels of externalisation.

An internalisation strategy will lack flexibility towards fluctuations in demand and may also give extra power to labour. However, it will minimise transaction costs and allow the firm to reap the benefits of its own specific assets. The external dimension of networks raises questions about the level of transaction costs. A high degree of externalisation may also be costly in terms of the costs of co-ordination and management of the network itself. Nonetheless, there may also be increasing costs of managing internal growth particularly if there is already a high level of utilisation of existing managerial capacity (as assumed in Table 3.3).

3.5 Control, firms and networks

A third important set of elements in the choice of network configuration relates to the degree of *control* that the firm will have when operating within fuzzy boundaries and networks. Zetlin (1974: 1090) highlights the difficulties in conceptualising control. He identifies control with '. . . the capacity to determine the broad policies of a corporation' and sees it as '. . . a social relationship not an attribute'. Control issues feature in the choice of network configuration in two ways: first, via the power that a particular firm may have in determining the overall strategic direction of the network; the power, that is, to exercise the type of control highlighted by Zetlin. Second, via the scope that a specific network configuration gives to exercise control in a variety of areas. Control therefore depends on the firm's power as well as on the nature, type and dimension of the network.

An example of the first use of control is the following. A large firm entering into partnership with several small ones (whether on subcontracting or joint venture agreements) is likely to have controlling power over the direction and strategies of the partnership's activities. Indeed Richardson (1972) writing about co-operative agreements between different firms states that: 'Co-operation may come close to direction when one of the parties is clearly predominant . . .' (p. 896). The second use of control may be illustrated by the following. The setting of strategic directions may be easier in the context of equity-based inter-firm partnerships. Moreover, some networks may be easier to control, on a day-to-day basis, than others. For example internal activities may be easier to control than subcontracting ones; single-location activities easier than multi-location ones; national easier than international ones.

In this context it is useful to distinguish between two types of control: strategic and operational control. Strategic control refers to control over the strategic direction of the firm. It includes strategies towards rivals, labour,

technological directions, geographical or product-based direction. Operational control refers to control over day-to-day operations and in the implementation of strategies. It includes control over (1) the quality and reliability of the products and delivery dates; and (2) the co-ordination process; the flow of resources, activities and outcomes between different units involved in the network.

The scope for *control* can thus be summarised.

1 *Strategic control*: over the strategic objectives and directions of the firm as in section 3.4 above. Control over labour and the labour process.
2 *Operational control*: over day-to-day operations such as:
   a Control over the quality and reliability of the products and over delivery dates.
   b Control over the co-ordination process and the flows of resources, activities and outcomes.
   c Control over the units/organisations that contribute to the production activities of the firm.[17]

This distinction between strategic and operational control is arrived at through an analysis of Cowling and Sugden (1998), which is very relevant to the content of this chapter. The changes in the boundaries of the firm (discussed in sections 3.2 and 3.3) have led Cowling and Sugden (1987a, b) to cast doubts on whether the conventional concept and definition of the firm based on the ownership of assets is still an appropriate one or whether we should move towards a definition which takes account of external linkages. They then proposed the following definition: 'A firm is the means of co-ordinating production from one centre of strategic decision making' (1987b: 60). They have built on those doubts and developed their analysis further in a more recent work.

Cowling and Sugden (1998) criticise several mainstream views of the firm and arrive at a concept of the firm based on power, control and strategic decisions. In their view '. . . the power to make strategic decisions can be equated with the power to control a firm, where control implies the ability to determine broad corporate objectives. . . . This includes the power broadly to determine a firm's geographical orientation, its relationship with rivals, with governments and with its labour force' (p. 64). Moreover, they see strategic decisions as being '. . . the pinnacle of a hierarchical system of decision-making' (p. 64), with operational decisions placed lower down in the hierarchy of decisions.

As well as a hierarchy of decisions there is a hierarchy of decision centres: some players have power of strategic decisions that affect other players. This applies to hierarchies of firms within inter-firm partnerships. Their approach therefore denies the notion of equality in the partnership and in the market. The hierarchy extends also to people/stakeholders within each firm. Some stakeholders have power to determine the strategic direction of the firm

'despite the objections of others' (p. 81) involved in production. The others – affected by those decisions – are passive players in the use of such power.[18] This removes any concept of equality of power between stakeholders. Cowling and Sugden's strategic decision-making approach brings in issues of distribution in the organisation of production: distribution between different stakeholders within the firm (for example managers or shareholders versus workers) and between different firms (for example large firms versus their small subcontractors).

Consistently with the development of their analysis Cowling and Sugden (1998) '. . . define a corporation in terms of a nexus of strategic decision-making . . .' (p. 61). In their framework, the large firm incorporates other players (such as subcontractors) which are directly affected by its strategic decisions. Cowling and Sugden therefore see the significance of their approach in terms of '. . . its identification of different boundaries to a firm compared with mainstream analysis; in particular it incorporates into the giant firm what the mainstream has identified as market *inter-firm* relationships' (p. 81).

Much of what I have here called the network firm corresponds to what Cowling and Sugden define as the firm or to put in different form, Cowling and Sugden's firm is a subset of our network firm. Thus Cowling and Sugden's firm incorporates subcontracting units though it would not include partnerships between two or three large firms each of which remains a centre of strategic decision-making.

The distinction between different dimensional configurations in the framework developed in this chapter allows us to analyse complementarities or trade-offs between different network dimensions in the achievement of the firm's objectives, including control objectives. The choice of configuration will be greatly influenced by the scope for control that it affords the decision-makers. Will the firm retain control over the strategic direction and objectives? This is the case for most typologies within the three dimensions in Table 3.4. However, it may not apply in some cases of partial ownership with minority stake or in the cases of alliances and joint ventures (whether or not on an equity basis) between equally powerful partners.

As regards the operational control, different network configurations may require different systems of operational control to take account of the different costs attached to such systems. Internalisation strategies give high levels of operational control while any configuration with high degrees of organisational and/or geographical fragmentation requires the setting up of special monitoring systems.[19]

How strict the control mechanisms need to be depends on the level of trust[20] within various actors in the network. The trade-off between trust and control may vary with the length of time of operation of the network. A network which has been in operation for a long time is likely to be one in which there is a strong degree of trust between the players and thus requires less stringent control systems and procedures.

Table 3.4 Dimensional configuration and control

Scope for control	*Organisational dimension*		*Locational dimension*		*Proprietary/ownership dimension*	
	High[1]	*Low*[1]	*High*[1]	*Low*[1]	*High*[1]	*Low*[1]
Strategic control	Firm at centre of strategic decisions. (A, B & C)[2]	Joint ventures and alliances between equal partners. (D)	n/a[3]	n/a	Full or majority ownership of assets. (I)	Non-controlling stake. (K)
Operational control	Internalised activities. (A)	External activities. (C & D)	Geographical concentration. (E)	Geographical dispersion. (G & H)	(I)	(K)

Notes
1 High and low indicate potential for control.
2 The letters in brackets refer to the typology in Table 3.1.
3 n/a, not applicable.

Control over the labour process and power towards labour is one of the main elements of strategic control facing the TNCs. It is an issue which, on the whole, is not much researched or considered by economists. A notable exception is the work of Stephen Marglin (1974) who explains the move towards the factory system via the wish to exercise control over the labour process. Sugden (1991) and Peoples and Sugden (2000) apply a similar approach to explain transnational activities.

In terms of our framework, a high degree of internalisation gives a high level of control over the labour process. However, labour working under the same ownership umbrella and within the same nation-state may find it easier – *ceteris paribus* – to organise itself and acquire strong bargaining power in negotiating pay and working conditions. Thus organisational fragmentation while giving less control over the production process and the quality and reliability of the products, gives the firm a stronger bargaining power towards its workforce. An international strategy may also achieve this aim as mentioned above and as will be argued in chapter six.

3.6 Possible uses of the framework: advantages and limitations

The framework presented here considers networks from a multidimensional perspective and analyses them in relation to their ability to achieve the firm's objectives. The framework is therefore shaped around two specific overall characteristics. First the dimensional analysis of the firm's boundaries in terms of organisational, locational and proprietary/asset ownership dimensions. Second the analysis of the choice of dimensional configuration in terms of three sets of elements: the firm's strategic objectives, the scope for control afforded by the network, and the efficiency objectives of the various configurations. How do these two overall characteristics help us in understanding the firm and its network configuration? How are the activities of the modern TNC placed within the context of these two specific characteristics?

The dimensional analysis of the firm's boundaries allows us to consider different aspects of network dimensions, their advantages, complementarities, as well as the extent to which it is industry-specific. The breakdown of elements leading to the choice of network configuration has the following advantages. It encourages the distinction between strategic, efficiency and control elements. This brings to the forefront of analysis two sets of elements often forgotten in the analysis and assessment of governance structures: strategic objectives and desire for control.

The framework facilitates an analysis of which elements are being considered by the firm in the choice of configuration. The firm may want to assess its own choice of network configuration in the light of its overall strategic objectives, the scope for control or the efficiency constraints/opportunities posed by the networks. The assessment can be done *ex-ante* (before the

setting up of new network structures) or *ex-post*, after the network is set up and running or indeed as a *post-mortem* to it.

Conflicts and contradictions between specific strategic objectives and control elements or efficiency constraints can be brought into focus. For example there may be conflicts between the strategic objective of achieving flexibility via externalisation and the desire to exercise strong control over the labour process. Is the achievement of strategic control objectives compatible with the achievement of operational control? The desire for strategic control may push the firm in the direction of fragmentation in one or more of the three dimensions. However, this may make it more difficult to exercise operational control.

It is possible to analyse the potential complementarity or substitution between the different dimensional configurations. The complementarity or substitution may be in relation to the achievement of specific strategic objectives or in relation to efficiency and control elements. For example organisational or geographical (by nation-state) fragmentation may be complementary in the achievement of a strategy of shifting power away from labour. All three dimensions (organisational, locational and proprietary) may be seen as diversification strategies that help towards risk minimisation.

The approach allows us to focus on advantages and disadvantages of specific network configuration for the firm. There may be high costs (including co-ordinating costs) in the establishment and operation of a network. To what extent is the firm affected positively or negatively by the fact that it may be operating a variety of networks? Are the firm's capabilities enhanced by specific networks compared with others? Is the network configuration balanced in terms of dimensional elements? For example is the firm overexposed to external linkages or too fragmented spatially or in terms of ownership structure?

Whether in the context of R&D or not, networks are seen, rightly, as vehicles for learning (Grundmann, 1999; Narula, 1999). To what extent does the firm learn from operating each type of network and to what extent can the knowledge be transferred to the operation of other networks with the same or different dimensions? For example: does the experience of operating majority-owned subsidiaries help in the co-ordination and management of inter-firm partnerships? Does the experience of operating networks of domestic subcontractors help in the management of international joint ventures?

Firms with a strong history of past linkages may find it easier to establish new ones quickly and effectively. The marginal costs of establishing new networks may be reduced. Kogut *et al.* (1993) explore various aspects of knowledge within networks including information on who possesses what capabilities. Such information may reduce transaction costs. They write, 'A firm's history of external relations determines the kind of information that is available for the purposes of searching for suppliers and gathering bids'

(p. 70). The authors refer to inter-firm networks. However, the learning process and advantages apply as well to intra-firm ones. For example the experience of setting up networks to deal with international production in a few countries helps in setting up production facilities in additional countries.

The multi-dimensionality and complexity of the overall network configuration may itself tell us a considerable amount about the firm, its history, its strategic choices, its constraints and the advantages and disadvantages it derives from the network. Firms that are successful in operating multi-dimensional networks may be in a stronger position in penetrating new fields, be they new product or country markets; they may also find it easier to establish new networks.[21] What about the decision-making process leading to a network configuration? Is the overall network configuration the result of rational decisions linking dimensional configuration to strategic and efficiency objectives as well as to control elements? Or is it the result of *ad hoc* behaviour and/or historical opportunities and accidents? To what extent is the choice of configuration industry-specific?

Though the framework is developed from the standpoint of the firm, it is possible to use it to analyse industries according to various degrees of dimensional configuration and fuzziness. It is, therefore, possible to consider the degree of multi-dimensional fragmentation within an industry by organisation, location and/or asset-ownership. In the context of the various configurations of fragmentation, it is then possible to analyse the benefits and costs for the industry as a whole,[22] as well as the issues of power and control by key players within an industry.

Networks, in all these three dimensions, also have implications for the economy and society as a whole, including some deriving from externalities. Ebers and Grandori (1997) draw attention to the externalities of inter-organisational partnerships. Externalities of regional industrial networks have been historically relevant for a long time (Piore and Sabel, 1984). On the locational dimension side, the analysis of external economies of industrial districts goes back to Alfred Marshall and has now been adopted and adapted by the geography of 'New Trade' theorists (Krugman, 1985, 1991a, b, 1998). We shall revisit this issue in chapter eight. Formal co-operative network linkages within industrial districts may enhance those externalities further. Other types of networks also generate externalities. The casualisation of labour in all its forms generates negative externalities for society. However, home-working or subcontracting arrangements may facilitate the transfer of information and knowledge acquired by the workers in one type of contract across contracts, firms and industries.

We saw in the previous section how Cowling and Sugden (1998) have highlighted the power over strategic decision-making and the distributional issues it raises. Some networks are built on the basis of a powerful centre of decision-making; others are based on a more equal distribution of power. An example of the first type is the vertical network of many suppliers and

subcontractors controlled by a large firm or the large TNC and its network of subsidiaries spread all over the world (see chapters four and five). Examples of the second type are horizontal networks such as co-operatives of small firms in industrial districts or partnerships between a few giant firms, equally powerful.

Thus the power of the firm affects the networks it is involved in. Conversely, successful networks may increase the power of the firm towards its rivals as well as towards those players in the economic environment that are less able to operate within networks or within networks characterised by specific dimensions; for example, those actors who cannot operate very effectively across nation-states whether on an intra- or inter-firm basis. The network configurations of large TNCs extend in all dimensions and this is one of their strengths and one of the advantages vis-à-vis smaller rivals as well as other economic actors such as labour and national governments. Smaller firms can also acquire considerable advantages when able to combine efficient internal networks with external co-operative arrangements with similar firms. It is partly in this context that Cowling and Sugden (1998) and Cowling and Tomlinson (2000) call for the development of multinational strategies for co-operatives of small firms.

In relation to the main topic of this book – the TNCs and their strategies – the following points are relevant. The TNCs have more scope for involvement in networks with a variety of dimensions; this is indeed what happens in the real world. The framework presented here is more applicable to them than to any other type of institution. The next two chapters will present empirical results on the internal networks of the world's largest TNCs.

The analysis presented here has some limitations. As presented in this chapter the framework is theoretical and the application side needs to be developed. Moreover, there is a danger that the framework may be used as just a taxonomic device with little explanatory power and scope for applications. A way round this problem is to concentrate on the dimensional configurations not per se, but in relation to the possible strategic, efficiency and control objectives of the firm. This will help towards the development of the explanatory power side of the framework. As regards applications, there is wide scope in terms of comparative analysis of firms or industries, with cross-section or panel data. The latter analysis could refer to the same firm or industry before and after major structural changes. A specific application of this framework is given in the next two chapters.

3.7 Conclusions

This chapter presents a theoretical framework for the analysis of business networks. The analysis takes a broader view of networks than the one usually found in the business and economics literature. The firm is put at the centre of the analysis and the chapter starts by highlighting changes in the bound-

aries of firms/organisations and the tendency towards less well defined, more 'fuzzy', boundaries. The fuzziness of the boundaries is identified as having a locational, organisational and proprietary/asset ownership dimension. Within each of these dimensions various types of networks are possible according to the degree of externalisation, geographical concentration and ownership stake (Table 3.1). From this emerges a wider, multi-dimensional view of networks as presented here, compared to the inter-organisation networks of much literature on the subject.

The choice of network configuration is seen as emerging from the combination of the firm's strategic objectives, its efficiency constraints/opportunities and the scope for control it can afford. The strategic objectives comprise: flexibility towards fluctuations in demand; power towards labour; risk minimisation strategies; strategies towards rivals, market shares and market penetration. The efficiency elements include: transaction costs; managerial costs and constraints; co-ordination costs and assets specificity. The chapter distinguishes between strategic and operational control and analyses how they affect the choice of network configuration.

In most cases, firms – particularly the large ones – will establish an overall network configuration, which is a mixture of various dimensions and achieves a variety of objectives. The balance between the various dimensions depends on the strategic objectives that the firm sets itself, on efficiency elements and on the level of control it is afforded by the network as well as the overall controlling power that the firm has. The strategic and efficiency objectives and the control elements vary from firm to firm and from industry to industry.

The different types of networks are analysed in relation to their ability to meet a variety of strategic objectives (Table 3.2) as well as a variety of efficiency constraints and controls (Tables 3.3 and 3.4). The possible uses, advantages and limitations of the theoretical framework are discussed in section 3.6.

The transnational company is involved in a variety of networks with most of the typologies discussed in the previous sections. The modern TNC will be at the centre of (and indeed is the prime strategic mover in) networks with a variety of organisational elements. Moreover, specific to its transnationalism is the fact that the TNC has networks of affiliates, which thus fall into the domain of locational, and proprietary dimensions. The next two chapters are devoted to the analysis of empirical evidence on these types of networks for the largest world TNCs for the year 1997 and for the largest UK TNCs in manufacturing and mining for a 34-year period. The role of the locational (by nation-state) and organisational dimensions of networks in shaping the strategies of TNCs and in helping us to understand some of the reasons behind the pattern of international production is the subject of chapter six.

There are some policy implications of this wider approach to networks though further applied work would have to be done to arrive at specific

conclusions. The three dimensions of networks affect each other as they all contribute – sometimes cumulatively – to the achievement of the firm's objectives as argued in the paper. It follows that industrial policy and, in particular, competition policy should take account of all three dimensions and their interaction. The multi-dimensional nature of the networks here analysed means that both issues of power and efficiency must be looked at in terms of the three dimensions of networks: the organisational, locational and proprietary dimension.

The relevant power for policy issues is market power as well as bargaining power towards labour and governments. Large transnational companies can derive bargaining power vis-à-vis labour or governments or smaller firms, from their externalisation of activities as well as from the spread of their operations in many countries as will be argued in chapter six. This means that an analysis of power and the related policies have to take a comprehensive approach. The establishment of different types of networks within firms may also lead to various costs and inefficiencies with implications for the performance of both firms and industries.

4 Cross-border internal networks of the world's largest TNCs

4.1 Introduction

The previous chapter was devoted to a theoretical analysis of the changing boundaries of the modern firm and the networks to which this gives rise. Within the framework presented, one type of network emerges from the international locational dimension. In the present and next chapters empirical evidence will be presented and analysed on the extent to which large TNCs are involved in strategies of locational diversification by nation-state. The results will help in the development of a theoretical perspective on the role of multi-nationality in the determinants of international production, which is developed in chapter six.

As already mentioned in chapter one, Held *et al.* (1999) distinguish between 'extensity, intensity, velocity and impact' of globalisation in their various manifestations. Chapter two provided some empirical evidence of the growing role of TNCs in world activities. We know that the number of companies which have branched out into direct production abroad, and thus have become TNCs, has increased. So has the range and value of their activities abroad. Therefore, the intensity or deepening of activities by TNCs has increased considerably. We also know, from chapter two, that international production and, in general, all activities related to TNCs have expanded. The number of countries involved in FDI either as host or home country, or both, has increased; so has the cross-country involvement in inter-firm alliances. What about the 'extensity' or geographical scope of such activities? There is only scanty evidence on the geographical spread or 'extensity' of operations at the level of single TNCs and thus on the internal geographical network of their operations.

The location pattern of international production at the macro level is the outcome of strategic decisions of thousands of companies worldwide. Are the new TNCs investing in the same countries in which old ones have been involved or are they testing new waters? Are well established TNCs increasing their portfolio of foreign assets by investing more in the same countries in which they already own assets, or are they branching out into new territories and countries? What possible strategies lie behind these

decisions? Does it matter whether they invest in one, two or a hundred countries, and if so, for whom does it matter?

This chapter attempts to tackle some of these questions by presenting various approaches to the assessment and measurement of internationalisation and geographical network spread of operations. A variety of indicators are developed and empirical results on them are given for the world's largest TNCs. The results will be analysed in relation to the size of the companies, the country of origin and the industry in which the TNCs operate.

4.2 Assessing the degree of internationalisation: different conceptual frameworks

The degree of internationalisation can be looked at from a macro or a micro perspective though the two are, of course, linked. Under the first one, the degree of internationalisation would be assessed by looking at the pattern of variables related to countries. There is a large body of literature on specific indicators of trade activity and patterns. There are also many indicators of geographical patterns of internationalisation in relation to countries and regions, which are more specific to TNCs' activities and in particular to FDI. For example, ratios of FDI to Gross Domestic Capital Formation or to Gross Domestic Product as in Table 2.5; or ratio of the sum of inward and outward FDI to GDCF as an indicator of multinational domination of national economies (Ietto-Gillies, 1989).

The work in this chapter will concentrate mainly on the micro perspective of the propensity to internationalise and it will therefore consider internationalisation from the point of view of companies' strategic decisions. There are many aspects to the geographical scope for internationalisation and thus various approaches to its conceptualisation and to its assessment. First, the degree of internationalisation can be conceived as degree of foreign projection. This means assessing the extent to which the company's strategies and activities are projected away from the home country. Second, internationalisation can be looked at from the point of view of propensity to dispersion of activities among different foreign countries; this I shall call degree of geographical network spread or dispersion or extensity. Third, we can consider the intensity of operation into each foreign country and thus the degree to which companies concentrate most of their activities in few host countries or disperse them equally among all the foreign countries in which they operate. Within these approaches it is possible to analyse the regionality versus full globalisation of operations by assessing the degree of regional concentration.

The majority of research works dealing with the assessment of the propensity to internationalise concentrate on the first approach and therefore see the degree of internationalisation as the degree of operating away from the home country. Several indices have been developed which assess the degree

of internationalisation as degree of 'foreignness'. Most of the indicators developed in the literature measure internationalisation in terms of the share of TNCs' activity(ies) abroad as a percentage of total activity(ies). They are therefore connected with the first type of strategy and thus with the decision whether to continue investing at home or to go abroad.

The various indices are constructed either by focusing on a single variable – such as sales, assets, employment, profits or R&D – or by taking a multidimensional, composite approach. Dunning and Pearce (1981) develop a widely used uni-dimensional index based on companies' sales. Dunning (1996) uses three uni-dimensional indices based on assets, employment and R&D. Sullivan (1994) constructs a composite five-dimensional index based on 'sales', 'profits', 'assets', 'Top Managers' International Experience' and 'Psychic Dispersion of International Operations'.[1] UNCTAD – DTCI (1995) develops both a composite tri-dimensional index and presents the data and indices related to its components (assets, sales and employment). Empirical results for the world's top 100 TNCs have been published in the annual UNCTAD *World Investment Report* ever since 1995.

The various indices mentioned above differ in: (a) the type of variable(s) used to represent TNCs' activities and (b) the dimensionality of the index in terms of the number of variables it incorporates; in other words, whether the index is constructed with one dimension/variable only or with more than one. Nonetheless all these indices have one basic, fundamental feature in common: the fact that the underlying concept of internationalisation which underpins them all is based on the dichotomy foreign versus home production.

As already mentioned, this framework based on the dichotomy foreign versus home activities is only one of the many possible frameworks within which internationalisation can be conceptualised and operationalised. Among these are: the propensity of companies to disperse among the many countries of the world; the intensity with which they operate in each host country; the degree to which they are concentrated in specific regions (such as one or more legs of the Triad or developing versus developed countries). These various frameworks correspond to different corporate strategies and the patterns at the industry and macro levels emerge from the variety of strategies by different companies.

Therefore, within the general strategy of direct foreign production there may be different specific strategies in relation to the locational spread/dispersion in many countries or concentration in a few, which was alluded to in the second point above (p. 64). At the extreme side of the spectrum, all production could be concentrated in the home country (as in the case of uni-national companies). It could be concentrated in two or three foreign countries, in a specific region or spread among most nation-states of the world. This is what I aim to capture by the concept of geographical spread or dispersion or extensity.

There have been very few empirical studies of the pattern of the locational spread of the activities of TNCs. The Commission of the European

Communities (1976) gives some details for the spread of affiliates for all the OECD countries. Vernon (1979) analyses the network spread pattern of subsidiaries of the largest US and European TNCs using data from the Harvard Multinational Project. Ietto-Gillies (1996a) analyses the trend in the network spread of affiliates of the largest UK TNCs in manufacturing and mining. Ietto-Gillies (1998) introduces an indicator of network spread based on the number of foreign countries in which the company operates.

As regards the third point it should be noted that, within each foreign country, TNCs could operate from a single affiliate, and thus production/sales point, or from several. This could be an indication of various elements including the following: the degree to which some foreign countries are more relevant than others in the companies' internationalisation strategies; it could also be an indication that organisational strategies may be specific to host countries, it may also be a sign of agglomeration tendencies linked to internal economies or external ones or to both. A Herfindahl index will be used to capture concentration patterns.

4.3 Methodology: the indices

Before introducing the three indices that will be used in the applied work, I should give a word of caution on the type of information used, though the details of the specific data will be given in the next section. Ideally, the first and third indices specified below should have been calculated on the basis of values of activity(ies) in the home country as well as in each host country. If such data were available they would really give us full details of the strategic patterns of location.

Unfortunately we do not have information on relevant variables expressing value/quantum of activities abroad and at home for all the companies in the sample. In particular the data expressing details of values of operations in foreign countries is too scanty and available for too limited a number of companies, activities or host countries to arrive at meaningful conclusions on the pattern of locational behaviour. However, information is available on the number of affiliates of each company by country of location. Such data on the number of affiliates has therefore been used here rather than data on the value of their investment, sales, or profits or employment. However, an affiliate can be a business unit with a considerable amount of investment and activity within it, or it can be a very small affair; it can be used for production or simply as a sales point. This means that the results of our indices must be interpreted appropriately and with caution.

The indices developed and for which results will be given in this chapter, are the following. The first index (I_i) is designed to assess the foreign projection of the company and is constructed as the percentage of affiliates abroad in relation to the total number of affiliates (domestic and foreign).

$$I_i = F_A/T_A$$

where I_i is the Internationalisation index; F_A is the foreign affiliates and T_A is the total affiliates.

The I_i index assesses the propensity of the company to operate away from the home country. For any random affiliate of a company, the index assesses the probability that it is located abroad. This index is, conceptually, the same as those in the literature already cited in section 4.2 above (Dunning and Pearce, 1985; Sullivan, 1994; and most notably UNCTAD – DTCI, 1995). These studies use variables related to some aspect or other of the level of activity such as sales, assets, profits or employment while I_i refers to the number of affiliates. The common element between I_i and similar indices is the fact that internationalisation is identified as the degree of 'foreignness' of the direct activities, independently of the number of foreign countries in which the activities of the TNC take place.

The second index developed, the Network Spread index (NS_i) is designed to take account of whether the company operates abroad in few or many nation-states and thus to assess the spread of activities among the various countries of the world. The index is developed in Ietto-Gillies (1998)[2] and is arrived at as follows. Let n be the number of foreign countries in which the TNC has affiliates, and n^* be the number of foreign countries in which, potentially, the company could have located affiliates.

Theoretically, n^* could include all the countries of the world; in practice I have taken it to be the number of countries, worldwide, which have been in receipt of foreign direct investment. This is, in fact, taken as an indication of willingness on the part of the host country to accept inward FDI and therefore as a real possibility for the companies to invest there.

I have, therefore, taken n^* to be the number of countries in which there is inward stock of FDI minus one, in order to exclude the home country of the TNC. The information in UNCTAD (1997, Annex, table B.3) gives n^* as 178. The actual value of n^* is not very important because the relevant analysis is based on comparison of values for the index between countries or industries and therefore the actual scale of the index is not significant. The relevant tables in this chapter will also report the value of n that is the actual number of foreign countries in which the companies have affiliates.

The Network Spread index is therefore constructed as: $NS_i = n/n^* = n/178$. Like the Internationalisation index (I_i) it is expressed in percentage terms. It measures the percentage of foreign countries in which the TNC has affiliates in relation to the total number of foreign countries in which, potentially, it could have located affiliates. Therefore the Network Spread index focuses on the spread of activities into many foreign countries and not on the 'foreignness' only, as in the Internationalisation index. Given any randomly selected country – from those that are in receipt of world FDI – the index assesses the probability that the TNC under consideration may have located activities in it.

The Network Spread index focuses on the number of foreign countries in which TNCs operate without taking account of the number of affiliates

located in each of them. Will all the foreign countries have equal weight in the company's strategy? Is there a tendency to agglomeration in a few host countries? Will the same organisational structure be followed in all the host countries? The third index is designed to begin to tackle some of these issues by taking account of the number of affiliates and their distribution among the foreign countries. This is done by using the Herfinolahl index of concentration calculated as:[3]

$$H_i = \frac{\sum_k (X_{ik})^2}{(X_i)^2}$$

where X_i is company i's total number of foreign affiliates and X_{ik} is company i's affiliates in foreign country k.

H_i has a range of values between zero (when all the affiliates are equidistributed between the host foreign countries) and one (when there is maximum concentration and all foreign affiliates are in one single foreign location).[4]

4.4 The data[5]

Two data sets were used for this analysis and for the year 1997: (a) the list of the world's 1,000 largest companies by market capitalisation published in *BusinessWeek* (BW, 1997); and (b) the information on the affiliates network by country, from Dun and Bradstreet *Who owns Whom* (WoW, Dun and Bradstreet, 1997). The BW list also provides information on the home country of the company and the industry classification within which it operates. The following procedure was followed.

The companies on the BW list were checked against WoW's database, and a profile of the affiliates was obtained. The profile provided a list of the affiliates split into four categories: dormant companies (which were not included in the data used for the present analysis), trade partners, associates and subsidiaries. The sum of the associates, trade partners[6] and subsidiaries formed the total number of affiliates for each parent company on the *BusinessWeek* list. An Excel macro was then used to sort the affiliates by country of location. The information on the total number of affiliates by host country was used to produce the three indices discussed above.

Some arbitrary decisions had to be made in cases where the WoW's database was not clear about the location of affiliates. This was most notably the case where affiliates were located in some part of former Yugoslavia or former Czechoslovakia. Difficulties in assigning the location to a listed nation-state meant that some affiliates had to be discarded from the analysis in cases where WoW did not assign the affiliate to a given country. A second issue was the use of 'haven' countries by companies. In producing a figure for the network spread of companies, it was aimed to match the location of affiliates with the countries receiving inward investment according to UNCTAD,

World Investment Report. As a result some affiliates whose locations were not on the UNCTAD list were discarded. Examples of these locations were Micronesia and La Reunion. All the issues discussed in this paragraph are very minor and negligible in relation to the number of companies and/or affiliates involved.

Two problems were encountered in producing the results. The first is the fact that there is not full consistency between the *BusinessWeek* sample and the WoW sample. There were two principal reasons for this. The first reason is that whilst the *Who owns Whom* survey contains a large list of parent companies, the *BusinessWeek* report does not discriminate between parent companies and subsidiaries. As a result some companies in the *BusinessWeek* survey either did not appear in the database or duplicated the profile of the parent companies. In these cases the company was discarded from the final sample. The second reason is due to a combination of the following: not all the companies in the BW 1000 are listed in WoW and the WoW sample appears to be biased in its orientation towards holding data on British companies. The final outcome may be over-representation of the UK sample of companies, though to a very slight degree. In fact, our final sample of 664 companies allocates 13.3 per cent of these to the UK and 39 per cent to the US. Thus our sample's representation by countries is fairly similar to the original BW 1000 which lists the following shares for companies from the UK and US: 8.9 and 33 per cent respectively.

The second problem was due to the focus on *transnational* companies. The *BusinessWeek* survey makes no attempt to distinguish between transnational (TNCs) and uni-national companies (UNCs). As a result, several companies, which are very large but operate directly only in the home country – mostly in the energy and utilities industries but with some examples in other industries – were discarded from our chosen set of data. The final sample extracted consisted of 664,[7] of which 28 have affiliates in one foreign country only. The TNCs originate from twenty countries; five of them have 'homes' in two different countries. They are: Shell, Reed and Unilever with headquarters in the Netherlands and the UK, ABB (Switzerland and Sweden) and RTZ/CRA (UK and Australia).

As already mentioned, in all three indices the activities are measured in terms of number of affiliates rather than in terms of values and 'quanta' of those activities. An obvious question was whether there is a danger of commenting on indices that are very remote from the values and quanta of TNCs' activities. In order to attempt to test whether this is indeed the case, a comparison was made between I_i (based on number of affiliates) with a set of indices which are constructed along the same conceptual framework (the degree of 'foreign' direct projection of the company) but use value/quanta data. This set of indices is taken from UNCTAD (1998) and relates to percentage of foreign assets, foreign sales and foreign employment in the total of those elements for the company. I have also considered the composite index developed by UNCTAD as a mean of the above three indices. The values of

these four indices are available for 86 of the 100 companies listed in UNCTAD (1998): these are the only companies for which we have the necessary data to carry out the exercise given in the next paragraph. Even for these companies the value/quantum data are available only for the overall foreign operations and are not broken down for each host country. Therefore no comparison could be carried out in relation to H_i.

In order to attempt a comparison between value/quantum data index and our I_i based on number of affiliates, we calculated a rank correlation coefficient between our I_i and these four indices, which are built from values/quanta. The results show the following coefficients: 0.51, 0.57, 0.60 and 0.58, respectively, for the above four elements (indices related to foreign assets, sales, employment and mean of the three indices). It would therefore appear that, on the whole, the indices based on the number of affiliates might be reasonably consistent with indices based on value/quantum.

In conclusion, the availability of value/quantum data for each subsidiary would greatly improve the reliability and significance of all the three indices introduced above. This information was missing from the Dun and Bradstreet database used for this study.[8] It would nonetheless appear that there is a fairly strong correlation between indices of 'foreignness' based on quantum/value data and those based on the number of affiliates only, as in I_i above.

4.5 Location of affiliates and size of the company

The transnational companies we are dealing with are among the largest worldwide. Their market capitalisation ranges from US$3.5bn to US$198.0bn. Table 4.1 gives details by size bands. It shows that approximately 43 per cent of companies are on the US$10+bn range in terms of size (Table 4.1, column 3 and Figure 4.1). The percentage in each size-band increases with the decrease in the size of the average company by market capitalisation (Figure 4.1).

As expected, the largest companies are the ones with the biggest average number of total as well as foreign affiliates (columns 4 and 5 in Table 4.1 and Figures 4.2 and 4.3). Moreover, the largest companies have affiliates in the largest number of foreign countries (column 6 in Table 4.1). All three indices display a monotonic pattern in relation to the size of the TNCs: I_i and NS_i decrease and H_i increases (columns 7, 8 and 9 in Table 4.1 and Figures 4.4, 4.5 and 4.6).

At the very top there is a total of 33 companies (five per cent of the total sample) with an average market capital of over US$50bn. They have, on average, almost 297 affiliates compared to an average of 159.4 for the whole sample. The same 33 companies operate, on average, in almost 42 countries and have a Network Spread index of almost 23 per cent compared to 12.5 per cent for the whole sample. They also have an average Internationalisation index of 65.4 per cent compared to an average of almost 53 per cent for the

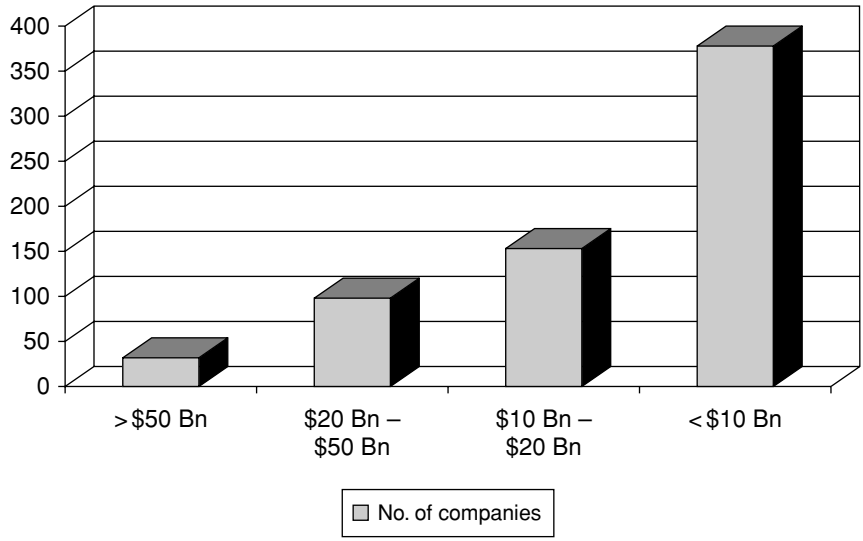

Figure 4.1 World's largest 664 TNCs: distribution of companies by size band by market capitalisation in US$bn. Averages. 1997

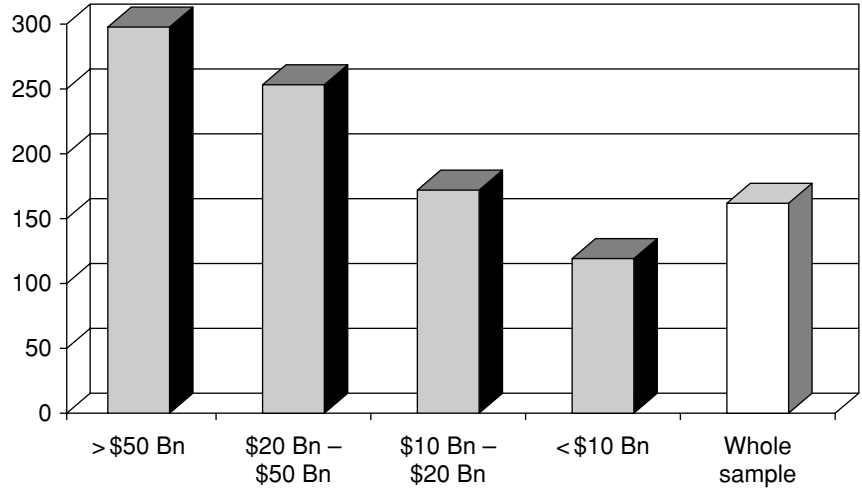

Figure 4.2 World's largest 664 TNCs: number of total affiliates by size band of company's market capitalisation in US$bn. Averages. 1997

Table 4.1 World's largest 664 TNCs 1997: breakdown by band size. Various indicators

Band	*Companies*		*Mean no. of affiliates*	*Mean no. of foreign affiliates*	*Mean no. of foreign countries*	*Mean* I_i *(%)*	*Mean* NS_i *(%)*	*Mean* H_i* *(%)*
	No.	*%*						
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
>$50bn	33	5.0	296.8	196.4	41.8	65.4	22.9	8.0
$20bn–$50bn	99	14.9	252.4	146.2	33.0	57.4	18.0	10.0
$10bn–$20bn	155	23.3	170.6	95.4	24.1	53.9	13.0	12.0
<$10bn	377	56.8	118.4	62.1	18.7	50.0	9.9	14.0
Whole sample	664	100.0	105,851	59,141				
Mean			159.4	88.8	23.2	52.8	12.5	12.0

Source: *BusinessWeek*, 7 July 1997. Dun and Bradstreet, *Who Owns Whom* CD ROM, 1997.

Note
*weighted mean.

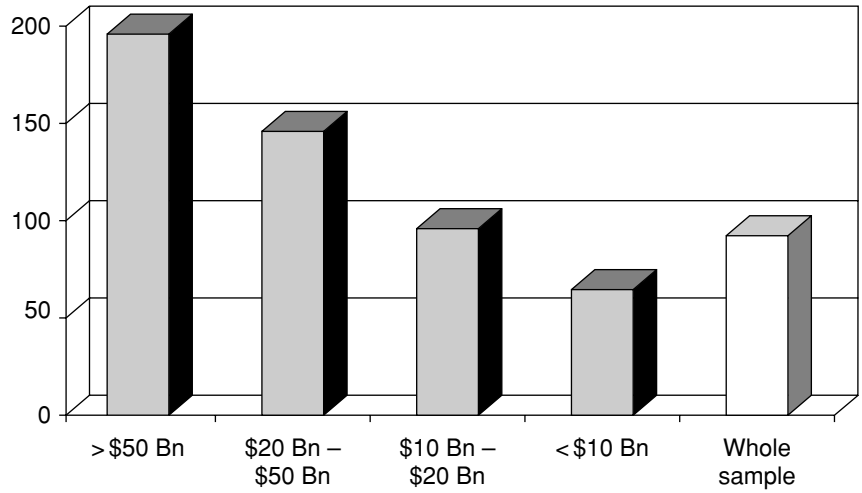

Figure 4.3 World's largest 664 TNCs: number of foreign affiliates by size band of company's market capitalisation. US$bn. Averages. 1997

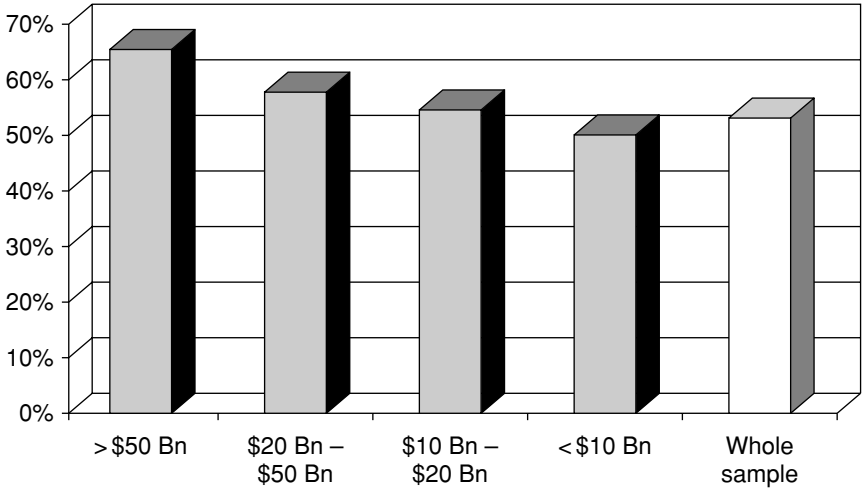

Figure 4.4 World's largest 664 TNCs: Internationalisation index (I_i) by size band of companies by average market capitalisation. US$bn. Averages. 1997

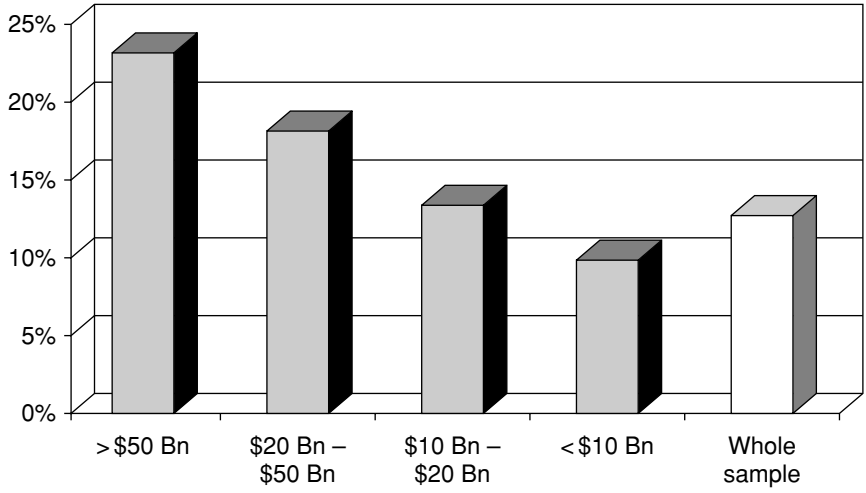

Figure 4.5 World's largest 664 TNCs: Network Spread index (NS_i) by size band of companies by average market capitalisation. US$bn. Averages. 1997

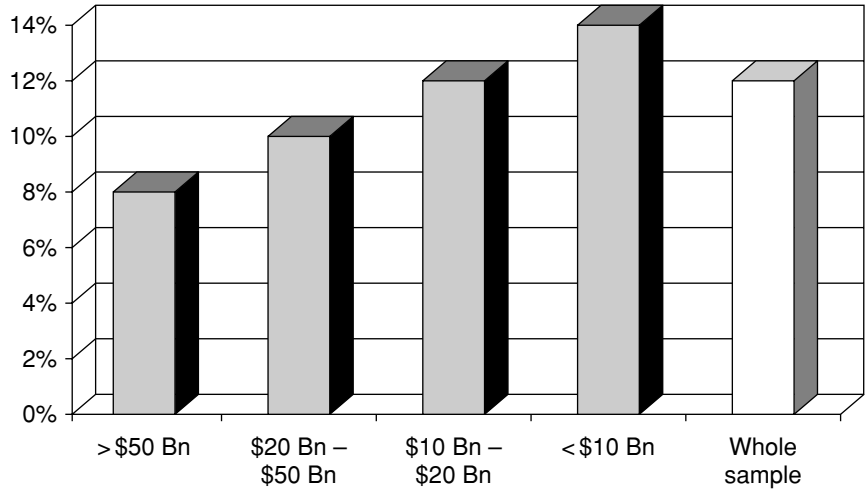

Figure 4.6 World's largest 664 TNCs: Concentration index (H_i) by size band of companies by average market capitalisation. US$bn. Averages. 1997

whole sample. Their average H_i is very low at 8 per cent, which indicates a pattern of location of affiliates very near equi-distribution.

Does size matter in the number and distribution of foreign affiliates? A priori we would expect the very large companies to be operating abroad to a higher degree than the average company. This is, indeed, corroborated by the empirical results. The TNCs in the sample have a total of 59,141 foreign affiliates, which means, on average, 88.8 foreign affiliates each. The corresponding average for the total world TNCs is 8.4.[9] Therefore, as regards foreign affiliates, the companies in our sample are of a totally different order of magnitude compared to the average world TNC.

It should also be noted that, historically, the average size of the TNCs worldwide might be declining, in relative terms, as an increasing number of smaller companies branch out with their production into foreign countries. There are many factors pushing in this direction. The lower relative costs and better technologies of transportation and communications are a major factor. Moreover, countries with a long tradition of foreign direct investment have developed institutional structures – such as governmental and non-governmental agencies, educational and cultural environments – that help to further international production by the smaller as well as the very large companies. It is as if the activities of the very large companies generate some spillover effects on to the smaller ones. The overall business culture has become more and more one of branching out into foreign countries.

Held *et al.* (1999: 274) write on this point: '. . . competitive conditions and global infrastructures have encouraged a transnationalization of production and distribution among small and medium-sized companies, such that international business activity is no longer the sole preserve of huge corporate empires, although these undoubtedly remain dominant'.[10] It may also be pointed out here that the institutional structure and culture are likely to be stronger in countries with a long history of internationalisation (Ietto-Gillies, 1996a). Moreover, countries where smaller companies are developing stable business arrangements – usually of the vertical type – with larger ones, are likely to see these arrangements spreading over the international arena as well as the home country. It is also possible for small firms to develop horizontal co-operative arrangements and gain a multinational reach through them.

Does large size lead to internationalisation or are transnational activities helping companies to grow and achieve large size? Which way does the causal relationship work? These questions cannot be answered within the scope of this study. A priori, the causal link could go either way. Size and economies of scale and scope can give ownership advantages, which are useful when competing with rivals for foreign markets and foreign locations of production. On the other hand – and particularly for companies which are already large – the international operations may give scope for further growth once the opportunities at home are exhausted.

It was not possible to detect a very clear pattern within each size-band listed in Table 4.1. As mentioned above, the location strategies cannot be assessed independently of other strategies by the company. Once a very high level of affiliates spread by foreign country is reached, it may be that companies resort to other strategies such as product diversification or strategic partnering. This means that, once a presence in a country is established, further involvement in it does not necessarily require the setting up of more affiliates, it can be developed via additional investment in the existing affiliates, or via inter-firm relationships including subcontracting and strategic alliances with other firms. Moreover, the number of affiliates in each foreign country is also likely to depend on the entry mode. If FDI takes the mergers and acquisitions route the company may, at first, find itself with a large number of affiliates. Some of these may later be closed down as a result of rationalisation.

The results for our H_i are, in general, quite low with an average of 12 per cent (column 9 in Table 4.1). This means that the companies not only operate in a considerable number of host countries (on average over 23 countries) but that they are also involved in each host country to a considerable degree, reaching an almost equi-distribution of their network of affiliates. If the number of affiliates in each country could be taken as a proxy for the level of activity in that country, than we could say that we are not far from an equi-distribution pattern of activities in host countries. The larger the companies, the lower the H_i and therefore the nearer the locational pattern is to equi-distribution. However, as already mentioned it may be far-fetched to take the number of affiliates as proxy for the level/values of activities. The jump from the one to the other is indeed more legitimate within each company, where we have some uniformity of product(s) and/or organisational strategies across the company as a whole. When we aggregate company data – whether by size or industry or other – the degree of uniformity diminishes and thus the average value of H_i is likely to be the result of a variety of strategies. Moreover, even within each company there is scope for divergence. In fact, each company may follow strategies that are specific to host countries and related to their economic, social, political frameworks including constraints set by the host countries' governments (for example on entry mode via joint ventures).

We can conclude with the following. The very large companies have an average number of affiliates abroad well above the total number of world TNCs. Within our sample, it appears that the largest companies have a higher propensity to operate away from the home country; they also have a higher propensity to spread their wings wide in foreign countries and to operate very nearly an equi-distribution pattern of affiliates in foreign countries.

4.6 Locational profile by country of origin of the companies

The largest world TNCs in the sample originate from twenty countries and they represent 1.1 per cent of the total world TNCs. Some 13.1 per cent of the total number of foreign affiliates in the world are attributable to these 664 TNCs.[11] Within the twenty countries the distribution is uneven. Table 4.2 shows that 39 per cent of these companies originate in the US. The next country with a high share is Japan with 18.4 per cent, followed by the UK with 13.3 per cent. These three countries together are home to over 70 per cent of the world largest 664 companies. Well below these countries come Germany and France with 5.7 and 4.4 per cent respectively.

It is interesting to compare the breakdown by country for the largest TNCs with those for their stock of FDI and for the total number of TNCs originating from the same countries. Column four in Table 4.2 gives the distribution of outward stock of FDI for the twenty countries in the sample. This allows us to analyse the extent to which there is consistency between the percentage of the largest TNCs located in the country (column 3) and the percentage of its total outward stock of investment. Indeed, the pattern in column four is very similar to the one in column three; however, a few countries have a higher percentage of outward FDI stock than might have been warranted by their share of the largest TNCs: namely the Netherlands, Switzerland, Hong Kong and Italy.

Column five in Table 4.2 gives the percentage shares of total world TNCs for which the twenty listed countries are responsible. All together the countries which are home to the largest 664 TNCs account for 76.0 per cent of the total world TNCs and for 94.2 per cent of the total outward FDI stock (column 4).

The distribution of the largest companies by country of origin has not changed much in the last 10–15 years. Table 4.3 gives similar distribution for manufacturing/mining and services separately for the years 1985 and 1985–7, respectively. It shows that the US, Japan and the UK are still the three countries at the top of the league in the share of large TNCs that originate from them. Moreover, the breakdown between companies operating within the two main sectors of the economy shows similar ownership pattern by country of origin (Table 4.3).

The data in column five of Table 4.2 give the percentage of world TNCs that originate from the twenty listed countries. The distribution is quite different from the one related to the top 664 TNCs (column 3) and from the one of the stock of FDI (column 4). Germany exhibits the highest share of TNCs with 15.3 per cent (column five), followed by Switzerland (9.1 per cent), Japan (8.6 per cent), Sweden (8.4 per cent) and US (6.8 per cent).

The discrepancies in distribution between columns 3, 4 and 5 in Table 4.2 may partly be specific to size and partly to the home country. On the first type of specificity, we note that Germany's highest percentage of world

Table 4.2 World's largest 664 TNCs by country of origin. Various indicators. 1997

Country of origin	*Number of companies*[1]	*Percentage of sample*	*Percentage of world FDI stock (outward)*[2]	*Percentage of world TNCs*[3]	*Internation-alisation index (mean) I_i (%)*	*Rank*	*Network spread (mean) NS_i (%)*	*Rank*	*Concen-tration index (mean) H_i*[4] *(%)*	*Rank*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*		*(7)*		*(8)*	
United States	259	39.0	25.6	6.8	50.7	14	11.8	11	11.0	12
Japan	122	18.4	8.0	8.6	57.2	7	8.6	14	16.0	6
United Kingdom	88	13.3	11.7	2.1	51.5	12	17.0	6	12.0	10
Germany	38	5.7	9.2	15.3	54.3	8	18.5	4	9.0	15
France	29	4.4	6.4	4.2	53.3	11	18.8	3	9.0	15
Canada	22	3.3	3.9	3.4	63.3	4	8.7	13	20.0	5
Sweden	19	2.9	2.1	8.4	51.3	13	13.7	8	8.0	18
Australia	13	2.0	1.5	1.0	53.7	9	11.4	12	21.0	4
The Netherlands	13	2.0	6.0	3.3	61.6	5	23.6	1	10.0	14
Switzerland	12	1.8	4.4	9.1	79.3	1	22.4	2	11.0	12
Hong Kong	10	1.5	3.9	1.0	27.1	19	5.1	19	22.0	3
Spain	9	1.4	1.4	1.7	22.3	20	7.3	16	9.0	15
Denmark	7	1.1	0.7	1.6	60.6	6	8.5	15	15.0	7
Italy	7	1.1	3.5	2.0	43.1	17	13.6	9	7.0	19
Belgium	6	0.9	2.7	2.2	66.1	3	12.6	10	12.0	10
Singapore	6	0.9	1.2	n/a[5]	49.9	15	7.0	17	15.0	7
Ireland	3	0.5	0.2	0.1	53.6	10	5.4	18	26.0	2
Finland	2	0.3	0.6	2.4	73.9	2	17.4	5	7.0	19
New Zealand	2	0.3	0.2	0.5	33.3	18	3.4	20	33.0	1
Norway	2	0.3	0.9	1.8	49.1	16	14.3	7	14.0	9
Total	669	100.0	94.2	76.0						
Mean figures	33.45				52.8		12.5			

Notes

1 Companies having headquarters in more than one country are counted as nationals of both countries. These companies include: ABB (Switzerland/Sweden); RTZ/CRA (UK/Australia) and Shell, Reed and Unilever (all UK/Netherlands). This accounts for a total of 669 instead of 664.

2 Source: UNCTAD–DTCI (1998), Annex table B4, pages 379–84.

3 Source: UNCTAD–DTCI (1998), table I.2, page 3–4. The data for Denmark is taken from UNCTAD (1997: 6) because the data given in UNCTAD–DTCI (1998) includes both Danish and foreign parent corporations based in Denmark. The world total has been adjusted accordingly.

4 Weighted average.

5 n/a, not available.

TNCs combined with a relatively low percentage of the largest TNCs means that its high share of outward FDI stock (9.2 per cent in column 4) is attributable to many companies that are not so large. As regards the second specificity, it could be that companies from different countries follow different market entry strategies.

At the other end of the spectrum, the UK's outward FDI stock (11.7 per cent of world total in column 4) appears to be originating mainly with very large companies. There is, in fact, a considerable discrepancy in the UK rankings on the largest 664 (column 3) and on all the TNCs (column 5), in the opposite direction to the one seen for Germany. It could also be that smaller German companies have been involved in direct market-entry strategies to a larger extent than companies of similar size originating in the UK.

The host countries of the affiliates of our 664 companies tend to be predominantly drawn from among the developed ones, as is indeed the case with the location of world outward FDI. For the sample as a whole, the 664 TNCs have located 44.1 per cent of their affiliates at home, 39.0 per cent in developed countries and 16.9 per cent in the developing countries (Table 4.4). In our sample, the share of foreign affiliates located in host developed countries, as a percentage of total affiliates in foreign countries, is 70. This contrasts with a 22 per cent share for all the foreign affiliates of the world TNCs.[12] The discrepancy is likely to be due to two elements:

Table 4.3 World's largest TNCs in manufacturing and services. Percentages of sample by country of origin 1980s

Country	*Mining and manufacturing*[1] *(%)*	*Services*[2] *(%)*
USA	46	45.5
Japan	16	20.0
UK	10	9.9
W. Germany	6	5.2
France	4	6.0
The Netherlands	1	2.7
Switzerland	2	2.5
Italy	1	1.1
Others	14	7.1
Total	100	100.0
No. of companies in sample	600	365

Source: UNCTC (1988).

Notes
1 Data refers to 1985.
2 Data refers to 1985–7.

Table 4.4 World's largest 664 TNCs by country of origin. Breakdown of affiliates' location by home country and host region. 1997

Country of origin	*Affiliates in home country*		*Host developed countries*			*Host developing and CEE countries*			*Total affiliates*		*Total affiliates in host countries*
			No. of countries operated in	*Affiliates*		*No. of countries operated in*	*Affiliates*		*(a) + (b) + (c)*		*(b) + (c)*
	No. (a)	*%*	*Mean*	*No. (b)*	*%*	*Mean*	*No. (c)*	*%*	*No. (d)*	*%*	*No. (e)*
United States	15,034	47.8	11.4	10,525	33.5	10.7	5,866	18.7	31,425	100.0	16,391
Japan	3,859	38.9	8.4	3,966	40.0	8.0	2,098	21.1	9,923	100.0	6,064
United Kingdom	9,830	41.3	14.8	10,249	43.1	15.3	3,699	15.6	23,778	100.0	13,948
Germany	5,135	46.1	16.9	4,449	39.9	16.4	1,559	14.0	11,143	100.0	6,008
France	4,072	49.5	16.6	3,064	37.2	17.7	1,095	13.3	8,231	100.0	4,159
Canada	623	35.1	8.8	793	44.7	7.5	358	20.2	1,774	100.0	1,151
Sweden	1,178	43.9	25.4	1,178	43.9	9.2	330	12.3	2,686	100.0	1,508
Australia	1,186	39.7	9.1	1,298	43.5	11.9	503	16.8	2,987	100.0	1,801
The Netherlands	1,626	43.6	15.0	1,597	42.8	15.8	506	13.6	3,729	100.0	2,103
Switzerland	306	12.1	18.1	1,549	61.3	23.6	670	26.5	2,525	100.0	2,219
Hong Kong	1,035	69.5	3.2	96	6.4	6.9	358	24.0	1,489	100.0	454
Spain	902	77.4	8.2	150	12.9	5.8	113	9.7	1,165	100.0	263
Denmark	161	36.1	11.0	216	48.4	5.1	69	15.5	446	100.0	285
Italy	719	50.5	13.1	492	34.5	12.3	214	15.0	1,425	100.0	706
Belgium	291	27.7	13.7	632	60.1	9.8	128	12.2	1,051	100.0	760
Singapore	171	29.3	4.5	174	29.8	8.8	238	40.8	583	100.0	412
Ireland	156	32.6	8.7	315	65.9	2.0	7	1.5	478	100.0	322
Finland	114	29.9	19.0	228	59.8	12.0	39	10.2	381	100.0	267
New Zealand	64	51.6	4.0	42	33.9	3.0	18	14.5	124	100.0	60
Norway	248	48.8	16.0	235	46.3	10.5	25	4.9	508	100.0	260
All TNCs and countries	46,710	44.1		41,248	39.0		17,893	16.9	105,851		59,141

Note
The allocation between developed and developing countries follows the UNCTAD *World Investment Report*.

(1) the smaller TNCs worldwide are more likely to have most of their affiliates at home and they are, in general, less internationalised than the very large ones; (2) a larger proportion of smaller TNCs are likely to originate from developing countries and to locate their foreign activities in other developing countries.

The regional breakdown in the shares of foreign affiliates for our sample companies is more consistent with the regional breakdown in the overall stock of inward and outward FDI which shows, for the developed countries, percentages of 68 and 90 for inward and outward, respectively.[13]

Columns six and seven in Table 4.2 give the values for the Internationalisation and Network Spread indices. Most European countries as well as the US and Australia show a double-digit index of Network Spread (NS_i). The following factors seem relevant in the country specificity of the results for the indices. First, the size of the home country; a large home country gives more scope to the company for growth at home. Thus – *ceteris paribus* – we might expect a lower degree of internationalisation and spread for companies originating from large countries compared with those from smaller ones. However, a large home base may also give the company specific ownership advantages, which favour them in their strategies of foreign expansion.

Second, the country's history of foreign direct investment: a long history of FDI increases the probability of wider spread because the companies and the home country will have more opportunities for links in other countries. Moreover, the home country is more likely to have developed an infrastructure and a business culture congenial to operating in foreign countries. *Ceteris paribus,* the marginal cost of operating in an additional country may decline with the longer history of foreign involvement and with the higher number of countries in which the company already has operations.

Third, some countries may be chosen as home country by companies for convenience reasons linked to financial and regulatory regimes. Switzerland, with the second highest spread of activities (NS_i equal to 22.4 per cent) and a very high percentage of foreign to total affiliates (the highest in the sample at 79.3 per cent)[14] may fall into the latter category. There is also likely to be a size effect as the country's economy is too small to provide scope for market growth at home.

The US is the largest economy in the sample. Though, as already noted, it is home to the largest number of the companies in our sample (259), its indices of Network Spread and Internationalisation are slightly below the average (at 11.8 and 50.7 per cent, respectively). The large size of the country provides scope for domestic growth of the companies and this may explain why the very large companies located in the US appear to be less spread than one might expect.

The UK results are particularly interesting. The UK is a relatively small economy with a very long history of international production and with the added advantage of colonial links from the past as well as experience of

operating in foreign countries.[15] This helps to explain the large share of TNCs from the sample which are located in the UK. It also explains the very high value for the Network Spread index (17.0 per cent).

The Netherlands, Sweden and Belgium are in a similar situation regarding size of the country and/or historical experience in foreign countries: all three countries show high to average values for the indices though a much lower share of number of companies in the sample (2.0, 2.9 and 0.9 per cent, respectively) than the UK.

Japan with the second highest share of sample companies (18.4 per cent), has a relatively low Network Spread index (8.6 per cent) though a higher than average Internationalisation index (57.2 per cent). This indicates the effect of a large economy combined with TNCs' strategies of targeted locational concentration (by nation-states) of their direct foreign activities. Moreover, the relatively recent involvement in foreign operations – compared to other countries in our list – does not give Japan the 'historical connection' advantage in the locational spread.

Transnational companies from most of the twenty countries have more than 50 per cent of their affiliates abroad. Among the exceptions are: Hong Kong, Spain, Italy and New Zealand, all of which have a low share of participation in the sample of companies (Table 4.2, column 6). As regards the last three countries, the relatively recent involvement in outward FDI makes the home country particularly relevant. In the case of Hong Kong, one has to look for explanations in its strategic position with regard to the rest of China and South East Asia.

Listed in column 8 of Table 4.2 are values for H_i. Low values for this index indicate near equi-distribution. High values indicate high degrees of concentration by host country. The results show that only two countries, New Zealand and Ireland, have values above 25 per cent and they are both very small countries. Are there reasons to believe that the spread of affiliates by host countries could be specific to the country of origin of the TNC? On the whole, I do not see many a priori reasons for home-country specificity. As already mentioned there is more likely to be specificity in relation to the product(s), or the company's organisational strategies, or the industry or the host country. Nonetheless, it could be that companies from different home countries have different organisational cultures, which they then implement when operating in foreign as well as in their home country. There may also be some country-specificity in relation to product(s) and industries. But the links would be indirect and thus, on the whole, I was not surprised to see no specific home-country pattern in the results for H_i.

4.7 Industry profile

The majority of the largest 664 TNCs operate within manufacturing and mining (407 or 61 per cent) with 257 (39 per cent) in services (Table 4.5). The average company size within the two sub-samples is the same at

Table 4.5 World's largest 664 TNCs: number, size and indices by sector, 1997. Averages

Sector	*Companies*		*Average size*	*Mean Inter-national-isation index*	*Mean Network Spread index*	*Mean Concen-tration index*
	No.	*%*	*($bn)*	I_i *(%)*	NS_i*(%)*	H_i *(%)*
Manufacturing and mining	407	61	15.8	58.4	14.3	10.0
Services	257	39	15.8	43.9	9.6	16.0

US$15.8bn. However, service companies have, on the whole, a lower foreign projection and a lower propensity for spreading affiliates in many countries. The average value for the Internationalisation index is 58.4 per cent for manufacturing and mining and 43.9 per cent for services. For the Network Spread index we have 14.3 and 9.6 per cent in manufacturing/mining and services, respectively, and the H_i is 10.0 and 16.0 per cent, respectively. Thus services appear to be less internationalised and their foreign affiliates more geographically concentrated (by nation-states) compared to manufacturing.

The results at such aggregate level must be looked at with caution. There is a fundamental problem in the sectoral breakdown, which has to do with issues of recording. This is a company-based study and the companies are classified according to their main activities. However, many companies, particularly large ones, which started as manufacturing have been diversifying, to a smaller or larger extent, into services. As they are still recorded under manufacturing, this leads to an under-recording of services activities in all their manifestations. Moreover, the service industries are the ones where fast changes are occurring partly due to the new technologies. However, as our data refer to one year only, it is impossible to detect dynamic changes.

The sample companies pertain to thirty-eight two-digit industries, which were aggregated into twenty groups of industries. The grouping has been done with attention to the type of activities and to the values of the two main indices (I_i and NS_i). The results are in Table 4.6 where the industries are ranked by average size of the companies (column 3) and the grouping is indicated in the notes.

The ranking of the I_i and NS_i by industry appears to be very similar. The industries that have a high percentage of affiliates abroad as well as a high spread of the network of affiliates in foreign countries are: automobiles, electrical, electronics and data processing, consumer products, household

Table 4.6 World's largest 664 TNCs: number, size and indices by industry, 1997. Averages

(1) *Industry*[1]	*(2)* *No. of companies*		*(3)* *Average size*	*(4)* *Mean network spread*	*(5)* *Mean index of Internation-alisation*	*(6)* *Concen-tration index*	*(7)* *Network spread*	*(8)* *Index of Internation-alisation*	*(9)* *Concen-tration index*
	No.	*%*	*($bn)*	*NS_i (%)*	*I_i (%)*	*H_i (%)*	*Rank*	*Rank*	*Rank*
1 Telecommunications	21	3.2	33.3	7.9	29.7	11.1	17	18	12
2 Automobiles	15	2.3	25.9	16.1	55.9	7.2	5	7	18
3 Energy sources	33	5.0	22.3	14.6	42.3	9.4	7	13	15
4 Multi-industry	26	3.9	20.3	15.7	55.1	13.2	6	9	10
5 Electrical, electronics and data processing	60	9.0	17.7	14.1	71.5	8.5	8	1	17
6 Consumer products	93	14.0	22.8	17.8	66.9	7.2	3	3	18
7 Business and public services	30	4.5	15.2	11.0	55.2	19.4	11	8	5
8 Financial services	126	19.0	15.9	10.3	48.3	14.6	13	12	8
9 Aerospace/military	9	1.4	13.8	9.9	31.4	11.5	14	17	11
10 Household durables	10	1.5	13.7	16.3	68.4	17.5	4	2	6
11 Real estate	10	1.5	13.6	4.4	27.8	23.4	19	20	4
12 Leisure and tourism	12	1.8	13.3	8.7	35.9	24.6	16	15	2
13 Chemicals	30	4.5	11.7	19.9	65.0	6.1	1	4	20
14 Merchandising	22	3.3	10.9	4.4	28.7	28.3	20	19	1
15 Wholesale/international trade	6	0.9	10.2	18.7	59.0	9.8	2	6	14
16 Broadcasting and publishing	15	2.3	9.7	10.6	39.8	16.3	12	14	7
17 Utilities and transportation	42	6.3	10.0	7.1	33.1	14.4	18	16	9
18 Capital equipment	44	6.6	7.4	12.6	61.8	9.0	9	5	16
19 Mining and forestry	41	6.2	6.6	11.4	53.0	10.9	10	11	13
20 Housing and construction materials	19	2.9	5.4	8.9	53.6	23.8	15	10	3
Total	664	100.0							

Note

1 The list of industries used here is derived by aggregation from the 38 categories as from *BusinessWeek*. The aggregated categories are:

Electrical, electronics and data processing	(Data processing & reproduction, electrical & electronics, electronic components)
Consumer products	(Beverages and tobacco, food & household products, health & personal care, recreation & other goods, textiles & apparel)
Financial services	(Banking, financial services and insurance)
Utilities and transportation	(Utilities, airlines, road & rail, shipping)
Capital equipment	(Energy equipment, industrial components, machinery & engineering)
Mining and forestry	(Gold mines, forest products & paper, nonferrous metals, steel, misc. materials)
Housing and construction materials	(Building materials and components, construction and housing).

durable/appliances, chemicals and wholesale/international trade. For these industries proximity to the market is likely to be very relevant and this feature may explain the high levels of internationalisation expressed by both indices. The industries with low – or relatively low – values for both indices, and therefore the industries for which the home country is still the main – or a very substantial – location are the following: telecommunications, aerospace and military, real estate, merchandising, utilities/transportation and tourism. A low value for the indices may, in some cases, be an indication of genuinely high production facilities at home, which act as a spearhead for the foreign ones (utilities, telecommunications, real estate). However, in other industries the activities abroad are important or crucial but the industry operates through other foreign channels and modes than the establishment of direct affiliates. This may be the case for the tourism and merchandising industries, which are also the industries with the highest H_i.

A high Internationalisation index combined with a low or relatively low Network Spread index shows that the activities of the industries are based abroad to a large extent, though they are concentrated in few – or relatively few – foreign countries. This is the case of business and public services, mining and forestry and housing and construction materials. The concentration index (H_i) shows very low dispersion around the mean. The following industries have below average H_i values: chemicals, consumer products, automobiles, electrical, electronic and data processing, capital equipment, energy sources, wholesale/international trade, mining and forestry, telecommunications and aerospace/military. Thus low concentration appears in industries where the proximity to the consumer is relevant, as in consumer products, automobiles and electronic, electrical and data processing and telecommunications. The highest values for H_i (and therefore the highest concentration of affiliates by host country) are in merchandising (28.3 per cent) and leisure and tourism (24.6 per cent). Different entry modes for these industries would explain the higher values for H_i.

As already mentioned, the history of the company and its entry mode into the host country is likely to play a role in such a distribution. Can we draw any conclusions regarding agglomeration tendencies? On the whole it would appear that the companies studied have a low agglomeration pattern either at home or in their host countries. The low concentration values and high foreign projection could be the result of various elements: low or relatively low internal economies of scale, low external economies at the industry level. The low agglomeration pattern found here is in accordance with similar results reported in other studies using different datasets and techniques. For example Krugman (1998: 15) states that '. . . in general, the tendency towards agglomeration is stronger in the models than it seems to be in the real economy'.[16] Nonetheless, account should be taken of the size factor. The companies in this study are all very large. This means that economies of scale as well as scope may still be possible even if production

Table 4.7 World's largest 664 TNCs by industry and home country, 1997

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	
Home country	*Telecommunications*	*Automobiles*	*Energy sources*	*Multi-industry*	*Electrical, electronics and data processing*	*Consumer products*	*Business and public services*	*Financial services*	*Aerospace/military*	*Household durables*	*Real estate*	*Leisure and tourism*	*Chemicals*	*Merchandising*	*Wholesale and international trade*	*Broadcasting and publishing*	*Utilities and transportation*	*Capital equipment*	*Mining and forestry*	*Housing and construction materials*	*Total*
United States	8	4	16	9	33	47	14	34	7	3		6	14	8	1	6	17	18	13	1	259
Japan	1	5	2		16	13	3	23		5	2		6	1	5	1	6	15	9	9	122
United Kingdom	4		5	5	2	11	7	17	2		2	6	2	8		3	6	3	2	3	88
Germany	1	3		1	1	6	2	8					4				5	3	3	1	38
France		1	2		3	4	3	5					2	3		1		2	1	2	29
Canada	1		2	1	2	1		5								1	2	1	6		22
Sweden		1			1	2		5		1				1			2	2	3	1	19
Australia			2			1		5								1			3	1	13
The Netherlands	1		1		1	2		3		1			1	1		2					13
Switzerland				2		4	1	4									1				12
Hong Kong	1			3							5						1				10
Spain	1		1					5									2				9
Denmark	1			1		3		1									1				7
Italy		1	1	1				4													7
Belgium			1	1				3					1								6
Singapore	1			1				2			1					1					6
Ireland								2												1	3
Finland					1														1		2
New Zealand	1																		1		2
Norway			1	1																	2
Total	21	15	34	26	60	94	30	126	9	10	10	12	30	22	6	16	43	44	42	19	669

is spread. One might find some industry specificity for the indices – and a clearer agglomeration pattern – in studies involving a sample containing both large and small TNCs as, for example, in Braunerhjelm and Ekholm (1998).

Table 4.7 gives the distribution of TNCs by industries and countries of origin, where the countries are listed according to their share of the sample TNCs (as in Table 4.2). As expected, the countries which are home to the largest number of companies, have TNCs covering most industries (US, Japan and UK in particular). Some industries are in the portfolio of many countries. The following industries appear in at least half the listed countries: telecommunications, energy sources, consumer products, multi-industry group, utilities/transportation, financial services and mining and forestry. These industries appear to be more widely spread among the twenty listed countries. There may be various reasons for this pattern, including the relevance of the home base for that specific industry.

4.8 Summary and conclusions

This chapter starts with a discussion of reasons behind different location strategies. The main body of the chapter is devoted to analysing the profile of the world's largest 664 TNCs in terms of the locational structure of their affiliates. Three indices are developed to analyse the companies' locational profile. The Internationalisation index, which assesses the degree of foreign projection of the company's direct activities and is constructed as the percentage of affiliates which are located in foreign countries in relation to the total number of affiliates. The Network Spread index, which assesses the extent to which the company's affiliates are located in many countries of the world. The third index assesses the degree to which the number of affiliates are concentrated (or, on the contrary, equi-distributed) within various nation-states. The research analyses the locational profile in relation to the size of the company; the country of origin of the TNC and the industry to which the company belongs.

As regards locational structure and size the following conclusions can be drawn. The companies in the sample considered here have, on average, 88.8 foreign affiliates, over ten times as large as the average for all the world-wide TNCs, big and small (8.37). We must, however, remember that even the smaller companies in the sample are pretty large, as the smallest company has a market value of US$3.5bn. These results are in accordance with expectations. Within the sample the largest companies exhibit a higher propensity to operate abroad and in a larger number of foreign countries. Their affiliates abroad tend to be fairly equally distributed around the host countries.

The large TNCs in our sample originate from twenty countries, which altogether – in the period covered by this study – were responsible for 76.0 per cent of the total world TNCs and for 94.2 per cent (Table 4.2) of the world stock of outward FDI. The distribution of the sample TNCs by

country of origin is similar to the distribution of the stock of outward FDI for the country as a whole. There are, however, some discrepancies with the distribution of total world TNCs; this may be due to the effect of the very large number – probably increasing – of smaller TNCs operating worldwide. There may also be the effect of possible different strategies for entry modes for companies originating from different countries.

The results corroborate the a priori hypothesis that the locational profile of the companies in terms of the country of origin is affected by the following elements: the size of the country; the history of FDI of the country with related links with other countries; and, in a minority of cases, the fact that the choice of home country may be linked to issues of regulatory regimes.

The locational profile of the companies according to the industries in which they operate shows the following pattern. In our sample more companies were listed within manufacturing and mining than within services (61 and 39 per cent, respectively). The two sectors have different results in relation to the three indices presented in this paper. Compared to manufacturing, the service sector shows lower values for both the Network Spread and the Internationalisation indices. It also shows less equal distribution of affiliates by host country.

The aggregated results for twenty industries show that the industries with high Network and Internationalisation indices are automobiles, electrics, electronics and data processing, household durables/appliances, chemicals and wholesale/international trade. In the following industries both indices appear rather low, denoting the relevance of the home country as a base for the companies' activities and/or the fact that the internationalisation strategies take on other modes besides direct establishment of affiliates: telecommunications, aerospace and military, real estate, merchandising, utilities/transportation and tourism.

On the whole the spread of activities in different countries appear to be size and industry specific. The specificity with respect to the country of origin is linked to wider elements such as the size of the home country and the history of foreign direct involvement of the country's TNCs. This means that the size of the company, its growth and its direct international strategies are likely to be affected by the size of the country of origin and the opportunity it offers at home and as a platform for foreign activities. Moreover, the spatial diversification must be seen in the context of wider diversification strategies, which affect spatial location, but also the mode of market entry as well as product diversification.

This study cannot discriminate between different entry modes in the location of affiliates, therefore we do not know whether and to what extent the entry mode via greenfield leads to different locational spread compared to entry via mergers and acquisitions.[17]

The distributional pattern of affiliates in foreign countries leads to a low average H_i (12 per cent in Table 4.1, column 9) which denotes low

concentration by host country. The low level of H_i is specific to the size of the companies and, in fact, the larger the company, the nearer the pattern is to equi-distribution. On the whole, industries in which proximity to the consumer is important appear to have low degree of concentration (such as consumer products). At the other end, the highest degree of concentration is shown by industries in which alternative entry modes are likely to be in operation, such as leisure and tourism (Table 4.6).

The overall results from the three indices lend weight to the hypothesis of low or relatively low agglomeration tendencies. It is not possible to distinguish whether this is due to low internal or external economies. In fact it could even be compatible with economies of scale because the companies studied are very large and therefore they could spread their activities and yet operate near optimum size.

There are strategic and policy implications from the overall results presented in the previous sections and we shall consider them at greater length in chapter six. At the company's level a high degree of Network Spread may be a sign of high ownership advantages. It may also denote a strategy of locational diversification, which should be looked at in the context of other diversification strategies and constraints (such as product diversification). Moreover, it may also have implication for costs and efficiency issues as a wide geographical spread may lead to higher managerial costs and organisational diseconomies. Such implications may also derive from the different degree of concentration of affiliates, which may be linked to the companies' organisational strategies.[18]

At the macro level, a high level of internationalisation – whether measured by foreign projection or by spread of activities or by both – may be an indication of low or declining locational advantages of the home country, particularly if associated with low levels of inward FDI. It may also have implications for the level and structure of the home country's trade, given the high level of involvement in trade by TNCs in general.

As regards implications for policies, a high foreign projection combined with a high network spread may put constraints on industrial policies by governments in the home countries (Ietto-Gillies, 1999). Moreover, a high network spread might point to a high degree of 'footlooseness' on the part of the companies. Here the industry specificity of the results on the Network Spread may be of some relevance in developing realistic industrial strategies.

On the whole, these large companies have a high degree of internationalisation on whichever concept and measure we adopt. In particular, they seem to operate with a very high degree of geographical spread of activities across nation-states and thus with high extensity levels.

The empirical research in this chapter concentrated on a study of the largest world TNCs in a particular year, 1997. We cannot draw conclusions regarding trends from this study. The next chapter is devoted to an

analysis of long-term trends in the spread of TNCs' direct activities for a more limited sample of companies: the largest UK TNCs in manufacturing and mining. The theoretical implications of the results of these two chapters will be further examined in chapter six.

5 Trends in the network spread of TNCs' direct activities

The UK case

5.1 Introduction

The empirical results and analysis of chapter four refer to the world's largest TNCs at a particular point in time: the year 1997. In order to be able to draw conclusions on possible changes over time in the internal network spread of companies' activities across frontiers, we need to look at indicators of trends. To this end, this chapter presents an empirical analysis for the UK over a long period of time. Two specific types of analyses will be presented here on trends. The first one assesses the location pattern and network spread of the largest UK manufacturing and mining TNCs for selected years over a period of approximately 35 years. The results and analysis are presented in sections 5.2 and 5.3.

The data set used for this part of the study is again taken from Dun and Bradstreet's (1997) *Who owns Whom* (WoW). The methodology used and the indices developed are the same as for chapter four. For the selected years prior to 1997, the database is not available in electronic form. This meant laborious manual deskwork in order to arrive at the various indices.[1] The magnitude of the task made it impossible to extend this study to other countries, companies or industries. For the year 1997 only, a comparative analysis by industries and sectors was also developed and the results are presented in section 5.4.

A parallel study was also made of the regional breakdown in location strategies. A considerable amount of empirical research exists on the issue of regionalisation versus globalisation (Thomsen and Woolcock, 1993; Oman, 1994; Hirst and Thompson, 1996; Kozul-Wright and Rowthorn, 1998a; Chesnais *et al.,* 2000). The aim of this part of the study is to enable some further conclusions on this issue using the data set for the location of TNCs' affiliates from WoW as well as some macro data on the stock of UK inward and outward FDI. The choice of the UK is a particularly relevant one, as this country seems to be one of the most (or indeed the most) dichotomous in terms of strategic behaviour by its businesses – and indeed its government – in relation to the EU versus the global world. For example, Ietto-Gillies *et al.* (2000) find that as regards cross-border mergers, the UK

Table 5.1 UK largest TNCs in manufacturing and mining. Selected years, 1963–97. Network of affiliates. Selected indicators

Year	*TNCs*						
	UK number	*UK % of world's largest 500 TNCs*	*Average no. of affiliates. Total number (UK and abroad)*	*Average no. of affiliates in UK*	*Average no. of affiliates abroad*	*Index of International-isation I_i (%) (e)/(c)*	*Number of host countries (mean)*
	(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*
1963	45	9.0	77	45	32	40.9	15
1970	41	8.2	340	181	159	46.9	32
1980	44	8.8	297	157	140	47.2	30
1990	41	8.2	371	176	195	52.5	36
1997	38	7.6	308	87	221	71.9	40

Note
Database: Dun and Bradstreet (selected years).
The TNCs included in the sample are those included in the world's largest 500 manufacturing and mining TNCs.

exhibits a more global, rather than regional (EU), pattern than any of the other EU member countries.

5.2 Trends in the location of affiliates of the largest UK TNCs

The UK TNCs selected are those included in the world's largest 500 manufacturing and mining transnationals. The years of observation are 1963, 1970, 1980, 1990 and 1997 (Table 5.1). The number of companies considered in each year varies from 38 (for 1997) to 45 (for 1963). These numbers are a decreasing percentage of the world's total, with the exception of 1980 when the percentage (8.8 in column b) is higher than for the two adjacent periods. The decreasing pattern is the effect of an increasing number of TNCs originating from other European countries, as well as Japan. All the results in Table 5.1 indicate that there has been a quantitative and qualitative jump from the 1970s onwards. The degree of foreign projection, that is the propensity of companies to locate their affiliates abroad, has been increasing steadily. This is shown by changes in the value of the Internationalisation index (I_i) from 40.9 in 1963 to 71.9 in 1997 (column f).

The propensity to spread the activities across many foreign nation-states is assessed by the number of host countries in which the companies operate.[2] The results show that the average number of host countries in which our TNCs have located affiliates more than doubles in the 34-year period, moving from 15 in 1963 to 40 in 1997.

The results for the post-1970 decades seem to show an overall quantum leap; companies operate with wider networks of affiliates both at home and abroad and operate in a considerably larger number of host countries.

The year 1997 also exhibits specific features. In particular a decline in the total overall number of affiliates and a much lower average number of affiliates in the UK. The first feature could be due to effects of outsourcing strategies which may have led to wider external networks[3] at the expense of internal ones. The restructuring and downsizing of the 1980s and early 1990s may have had an effect on the internal network of companies and, indeed, it may have been stronger in the UK than elsewhere. Nonetheless, we must not read too much into data that refer to number of affiliates rather than values/quanta of activities.

The second feature – which also leads to a much higher value for the index of internationalisation – denotes the considerably higher relevance of foreign locations for UK companies. The larger average number of affiliates abroad is, indeed, combined with a larger number of host countries in which they operate. The index of internationalisation for these 38 UK companies at 71.9 per cent is considerably higher than the average for the world 664 companies – comprising all sectors – analysed in chapter four (52.8 per cent in Table 4.2). Indeed, it is much higher than the average for the 88 UK companies included in the 664 sample (51.5 per cent).

In 1997 the UK companies analysed in the present chapter (part of the world's largest 500 TNCs) operated in 40 host countries. The 88 UK companies included in the world's 664 operate in 30 countries on average. The world's largest 664 operate in 22 countries on average.

The comparisons on results in any one year and through the years must be made with caution particularly since only the 1997 data were available and processed electronically. There may be issues of comparability of data and results between 1997 and the previous years in the study. Nonetheless, the overall results seem to point to a jump in the extension and deepening of global strategies by UK manufacturing and mining companies.

5.3 Internationalisation, size and survival in top lists

The results analysed in the previous section relate to observations on the UK manufacturing and mining companies, which are included in the list of the world's largest 500 TNCs. The UK sample – as indeed the world sample – does not remain constant through the five-year observations. Some companies remain in the list of the largest world 500, some drop out and new ones are included. Do those companies that remain in the top 500 list exhibit the same, lower or higher degrees of internationalisation and network spread of operations? Answering this question enables us to draw some inference on the relationship between growth, size and transnationality of operations.

In order to throw some light on this issue the various indicators in Table 5.1 were calculated for sub-samples of UK companies. Three sub-samples were considered (A, B and C). Sub-sample A comprises those UK companies that appear in the 500 list for all the five years of the study; ten companies in all (Shell, BT, Unilever, BAT, ICI, General Electric, RTZ, Thorn EMI, Beecham, Rolls Royce). Sub-sample B comprises those TNCs that appear consistently in the last four years of the study (1970, 1980, 1990 and 1997): they include the above ten companies plus British Steel and Burmah. Sub-sample C comprises those TNCs that appear on the 500 list in the last three years only of the study (1980, 1990 and 1997). They are 18 altogether and include the previous twelve plus Grand Metropolitan, BOC Group, British Aerospace, BTR, Glaxo and Cadbury/Schweppes.

The UK companies that have managed to remain in the list of the top 500 for either the five, four or three years of the study, exhibit and maintain throughout the period a bigger network of affiliates in total, as well as separately, in the UK and abroad as shown by the averages in Table 5.2. We can, in fact, detect the following pattern. The companies which have been in the list for the longest periods – ten companies for the 34-year period – have a higher average number of affiliates (both at home and abroad) than those which remain in the list for 27 years (twelve companies); the latter have a higher average number of affiliates (at home and abroad) compared to those that remain on the list for 17 years (eighteen companies).

Table 5.2 UK largest TNCs in manufacturing and mining listed in periods 1963–97, 1970–97 and 1980–97. Network of affiliates. Average number of affiliates

Year	*Mean number of affiliates*[1]								
	Total			*In the UK*			*In host countries*		
	A (a1)	*B (b1)*	*C (c1)*	*A (a2)*	*B (b2)*	*C (c2)*	*A (a3)*	*B (b3)*	*C (c3)*
1963	106	—	—	48	—	—	58	—	—
1970	474	457	—	226	225	—	248	232	—
1980	495	467	385	212	206	178	283	261	207
1990	671	604	569	263	243	234	408	361	335
1997	606	537	486	156	136	126	450	401	360

Note

1 (A) Refers to the ten companies that appear in all the years from 1963 to 1997. They are: Shell, BP, Unilever, BAT, ICI, General Electrics, RTZ, Thorn EMI, Beecham and Rolls Royce. (B) Refers to the twelve companies that appear in 1970, 1980, 1990 and 1997. They are: the ten as in (A) plus British Steel and Burmah. (C) Refers to the eighteen companies that appear in 1980, 1990 and 1997. They include the twelve as in (B) plus Grand Metropolitan, BOC, British Aerospace, BTR, Glaxo and Cadbury/Schweppes.

For example, for 1997 the ten UK TNCs that remain in the world's largest 500 league since 1963 have on average 606 affiliates in total (in UK and abroad). This figure is higher than the value for the twelve companies that remain in the league since 1970 (537 on average). The latter value is higher than the one for the TNCs that remain in the largest 500 league since 1980 (486 on average). A similar pattern is shown for the average number of affiliates in the UK (which for 1997 decreases from 156 to 136 to 126) and in the host countries. The average for the last group and for 1997 decreases from 450 to 401 to 360.

Moreover, the average number of affiliates for the three sub-samples in Table 5.2 is higher than the one for the total sample of UK companies analysed in section 5.2. For 1997 Table 5.1 (columns c, d, e) shows average values of 308, 87 and 221, lower than the corresponding ones in the last row of Table 5.2: 606, 156, 450; 537, 136, 401; 486, 126, 360 respectively for the five-, four- and three-year periods in the sub-samples.

Table 5.3 gives the estimates for the Internationalisation index (I_i) and for the number of host countries in which the companies in the sub-samples locate. The pattern is, of course, the same as the one observed for the average number of affiliates just analysed. The index is, in fact, calculated as a ratio of the number of affiliates abroad to total affiliates.[4]

In the total sample (Table 5.1) and in the three sub-samples (Table 5.3) the value of the index increases consistently through time. This shows a consistently stronger internationalisation strategy through time. Moreover, the ten companies in the first sub-sample (Table 5.3) which remain in the top

Table 5.3 UK largest TNCs in manufacturing and mining listed in periods 1963–97, 1970–97 and 1980–97. Network of affiliates. Index of Internationalisation and number of host countries

Year	*Index of Internationalisation (mean)* I_i *(%)*			*Number of host countries (mean)*		
	A (a1)	*B (b1)*	*C (c1)*	*A (a2)*	*B (b2)*	*C (c2)*
1963	55	—	—	28	—	—
1970	52	51	—	48	44	—
1980	57	56	54	50	47	41
1990	61	60	59	58	53	53
1997	74	75	74	67	63	59

Note
(A), (B), (C) as in Table 5.2. I_i is calculated from data in Table 5.2, as ratio of number of affiliates in host countries divided by the total number of affiliates. For example, for 1963 (a1): the value of 55 is obtained as ratio of 58 (a3 in Table 5.2) and 106 (a1 in Table 5.2).

500 list show slightly higher levels of I_i than those twelve which remain in the list for 27 years. Similarly for those that are on the list for 17 years (18 companies). There is a slight anomaly for the year 1997, for which the I_i remains almost unchanged for the three sub-samples albeit at the highest level of any other value for I_i. The I_i for all three sub-samples are again consistently higher than those for the whole sample. For 1997 the estimates for the three sub-samples are, respectively, 74, 75 and 74 (bottom row of Table 5.3) while the one for the whole sample is 71.9 (column f in Table 5.1).

The second part of Table 5.3 gives the number of foreign countries in which the three sub-samples of companies have established affiliates. All the values for these sub-samples are consistently and considerably higher than those for the full sample of companies in the top 500 list shown in Table 5.1, column g. Moreover, we see again the same pattern as for I_i. The ten companies which remain in the list for the longest period operate in larger numbers of countries throughout the period. This is in comparison with those which remain in the list for 27 and for 17 years only. All the results in Tables 5.1 and 5.3 show that the number of host countries increases through time for the sample as a whole, as well as for the sub-samples.

The conclusion to be drawn from these results seems to be that internationalisation strategies and large size/growth are strongly connected. It appears that the ability to remain in the list of top world companies may be connected with the following characteristics. First, the companies' internationalisation strategy and second the ability to develop and manage expanding internal networks at home and abroad. In making these statements, I am implicitly using the number of affiliates as a proxy for size of the companies and this is, of course, a strong assumption. However, even

if there is no monotonic relationship between size/growth and number of affiliates, the following conclusions seem to hold. Those companies whose internal network of affiliates has been increasing and who still remain in the world top 500, show that such networks are relevant for growth and moreover, they show that they have the ability to manage efficiently vast and growing networks. Thus a growth strategy based on internationalisation via direct activities must necessarily rely on the ability to organise and manage such large and expanding networks, as pointed out in the theoretical analysis of chapter three.

5.4 Network patterns for manufacturing and services

The specific study of UK companies presented so far in this chapter refers to manufacturing and mining only. A comparative study of all industries was done for the year 1997 only and the results are presented in Tables 5.4, 5.5 and 5.6. The companies are those included in the *BusinessWeek* 1000. This gives a total of 38 manufacturing and 49 service TNCs (first row of Table 5.4).

The manufacturing companies exhibit a wider network of affiliates than the service ones (with an average of 221 against 130 for all countries). Their home base (UK) is less relevant than for services (87 average number of affiliates against 115). This may be partly due to the specificity of the products and partly to the less mature phase of services in the international life cycle.[5] The manufacturing and mining network of affiliates abroad appears, as expected, to be more entrenched in developing countries compared to services.

Worldwide the manufacturing companies operate in more host countries than services (on average 40 against 24). Manufacturing TNCs tend to operate in more developing than developed host countries (22 versus 18). However, on average, they have a higher number of affiliates in developed than in developing countries (162 versus 59, respectively). The services TNCs operate, on average, in more developed than developing countries (14 versus 10) and with a much higher average number of affiliates (102 versus 28). Consistent with these results, the indices of network spread (NS_i) and internationalisation (I_i) are higher for manufacturing than for services. Thus UK manufacturing TNCs exhibit a higher propensity to transnationalism both in terms of foreign projection and in terms of spread of direct activities abroad (NS_i).

The value for the two indices have been calculated for a breakdown of twelve manufacturing and eleven service industries and are presented in Tables 5.5 and 5.6. The two sets of indices are fairly highly correlated at the level of manufacturing, services and total of the two sectors. The correlation coefficient between I_i and NS_i are respectively 0.67, 0.65 and 0.70.

Within manufacturing, the industries which are most internationalised seem to be those dealing with consumer products in which the

Table 5.4 UK transnational corporations in the world's top 664. Network of affiliates, 1997. Summary results

	Manufacturing companies	*Services companies*	*Total: manufacturing and services*
No. of transnational corporations	38	49	87
Average no. of affiliates in:[1]			
EU	83	45	62
developing countries	59	28	42
developed countries	162	102	128
UK	87	115	102
all countries	221	130	170
Average number of foreign countries:			
developed countries	18	14	15
developing countries	22	10	15
worldwide	40	24	30
Average levels for indices:			
Network Spread index	21.9	13.1	16.9
Internationalisation index	66.6	48.1	56.2

Note
1 The relevant region excludes the UK.

internationalisation strategy is market and consumer led (health and personal care, chemicals, beverages, foods and household products, energy products). The least internationalised are building materials and components, utilities, aerospace and military. As regards the service industries, insurance and broadcasting/publishing appear very internationalised. At the opposite end of the spectrum are financial services, real estate and merchandising. These results are consistent with the industry analysis of the world 664 TNCs analysed in chapter four and presented in Table 4.6.

On the whole the sectoral results show a much higher propensity towards internationalisation on the part of manufacturing than service companies. This could be due to a variety of elements including specificity of the products; different scope for delivery at a distance via new technologies; different level of maturity of the products and industries and a longer history of involvement in direct production abroad on the part of UK manufacturing industries.

5.5 Regionalisation versus globalisation patterns

An attempt has been made to assess the extent to which the UK largest TNCs in manufacturing and mining are projected towards specific regions. The results of the two indices in Table 5.4 show that for 1997 both services

Table 5.5 Largest UK manufacturing TNCs by industry. Network of affiliates: indices and ranking 1997

	Network Spread index		*Index of Internationalisation*	
	NS_i	*Ranking*	I_i	*Ranking*
Health and personal care	95.4	1	33.9	1
Chemicals	93.7	3	32.0	2
Beverages, foods and household products	94.0	2	31.9	3
Metals	90.9	6	16.9	7
Electrical engineering	91.8	5	23.3	6
Recreation and other consumer goods	87.8	8	15.4	8
Energy sources	92.3	4	27.1	4
Building materials and components	65.8	12	12.9	10
Mechanical engineering	88.6	7	14.0	9
Multi-industry	87.2	9	23.6	5
Utilities: electrical and gas	76.0	11	5.8	12
Aerospace and military technology	85.3	10	11.0	11

Source: *BusinessWeek*, *List of Top 1000 Companies*, 1997. Dun and Bradstreet, *Who owns Whom*, 1997.

Note
For the methodology behind NS_i and I_i cf. chapter four.

and manufacturing TNCs are more projected towards developed than developing countries in terms of their average network of affiliates.

Table 5.7 presents network indicators for the five chosen years between 1963 and 1997 for manufacturing and mining TNCs only. Three areas are given: UK, developed and developing plus CEE host countries. The results show a relative steady decline of the home territory – in terms of average number of affiliates – as an expansion base for the networks of large companies (column a). Correspondingly, the foreign host countries have become more crucial to expansion strategies. The average number of host countries in which the largest TNCs operate has been increasing in both developed and developing countries (columns c and g). The developing and CEE countries represent a growing percentage of the total host countries in which the companies operate (columns d and h). The same is true for the average numbers of affiliates in the two areas (columns b and f).

However, the percentage of outward stock in the two areas shows an opposite pattern; considerable growth in the developed countries has led to a decreasing share directed towards developing countries (columns e and i). Thus the overall results show that a decreasing share of FDI is divided more

Table 5.6 Largest UK service TNCs by industry. Network of affiliates: indices and ranking 1997

	Network Spread index		*Internationalisation index*	
	NS_i	*Ranking*	I_i	*Ranking*
Banking	19.66	3	50.34	7
Transportation: shipping	28.65	1	54.45	4
Broadcasting and publishing	21.72	2	58.26	2
Telecommunications	13.20	5	50.77	6
Financial services	8.85	9	37.13	10
Transportation: airlines	8.99	8	57.89	3
Business and public services	12.04	6	51.56	5
Real estate	6.18	10	26.86	11
Insurance	14.27	4	59.33	1
Leisure and tourism	11.80	7	43.84	8
Merchandising	5.69	11	39.81	9

Note
Database and note: cf. Table 5.5.

thinly in developing and CEE areas among a growing number of countries and growing average number of affiliates. The developed countries' networks appear to be increasingly more endowed with stock of FDI relative to the developing and CEE countries.

The regional analysis has been extended further at the macro level, using FDI stock data for both inward and outward data. Regional intensity indices have been calculated for three years 1981, 1990 and 1996 and for several regions (Table 5.8).

The Regional Intensity index (RI_i) is calculated using the following formula:

$$RI_i = \frac{\text{FDI(I) to UK from region/FDI(I) to UK from world}}{\text{FDI(O) from region/FDI(O) world total } (-\text{UK})}$$

where: RI_i is the UK Regional Intensity index for inward FDI; FDI(I) and FDI(O), are Foreign Direct Investment; inward and outward stock, respectively.

Whenever the UK is part of the region, the UK value of FDI is subtracted from the region's total. Values of the index above unity indicate a strong gravitation towards the region. Values below unity denote stronger propensity towards globalisation than regionalisation.

The results in Table 5.8 show that the UK gravitates strongly towards developed countries (particularly on the outward side). Within the developed areas, North America is the region with stronger links.[6] However, the trend in Europe and particularly the EU is one of strong engagement. This

Table 5.7 UK largest TNCs in manufacturing and mining. Regional breakdown. Network of affiliates. Total UK outward FDI stock. Selected years 1963–97. Averages

Years	*UK*	*Host developed countries*				*Host developing and CEE countries*			
	Affiliates located in UK as % of total	*Affiliates as % of total*	*No. of countries. Average per company*		*UK outward FDI stock (%)*	*Affiliates as % of total*	*No. of countries. Average per company*		*UK outward FDI stock (%)*
			No.	*%*			*No.*	*%*	
	(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*	*(i)*
1963	59	30	9	60	63.5	11	6	40	36.5
1970	53	36	16	50	73.7	11	16	50	26.3
1980	53	37	15	50	78.2	10	15	50	21.8
1990	48	41	18	50	83.0	11	18	50	17.0
1997	28	53	18	45	83.2	19	22	55	16.8

Sources: For outward stock of FDI: UNCTC (various years) and UNCTAD, *World Investment Report* (various years). For database on affiliates: Dun and Bradstreet (various years).

Table 5.8 Regional intensity indices for UK foreign direct investment stock. Inward and outward. 1981, 1990, 1996

	Regional intensity indices for the UK for inward FDI stock			*Regional intensity indices for the UK for outward FDI stock*		
	1981[1]	*1990*	*1996*	*1981*[1]	*1990*	*1996*
Western Europe	0.76	0.89	0.97	0.71	0.79	1.38
EU[2]	0.64	0.84	0.86	0.75	0.79	1.44
North America	1.12	1.28	1.24	1.05	1.31	1.09
Developed countries	0.99	1.02	1.08	1.06	2.28	1.25
Developing countries and CEE	1.41	0.69	0.35	0.84	0.70	0.53
Latin America	1.84	2.02	1.06	0.52	1.10	0.59
Asia	1.15	0.43	0.21	0.84	0.45	0.46
Africa	−0.50	0.06	1.01	2.09	0.64	0.55

Source: as for Table 5.7.

Notes
1 For 1981, the numerator ratio is calculated with 1981 data and the denominator ratio is based on 1980 data.
2 EU is taken to be the aggregation of 15 current member states for all the years in the sample.

is particularly so on the outward side post-1992 (the index moves from 0.79 to 1.44 from 1990 to 1996). Correspondingly, the gravitation toward developing and countries has been declining steadily. The three developing regions (Latin America, Asia and Africa) show very different patterns and trends. However, there is a declining trend in UK gravitation towards all the three continents on the outward side. On the inward side, there are declining trends for Latin America and Asia and an unclear result for Africa, for which the values of FDI are very small anyway. On the whole the results at micro and macro levels are fairly consistent, though the data measure different elements of activities and the indicators are different.

The largest UK TNCs in manufacturing and mining have steadily increased their network of affiliates in host countries and moved away, in relative terms, from the home base. The pattern may partly be linked to growth strategies linked to internationalisation. However, it may also be connected to a stronger drive towards outsourcing at home and therefore towards relatively smaller internal networks.

The stronger relevance of developed countries – as both destination and source of FDI – emerges from the intensity indices. North America plays a strong role in this, though the EU is becoming the region towards which the UK gravitation has increased most.

5.6 Summary and conclusions

This chapter presented and analysed the results of empirical research for a specific country: the UK. Trends in internationalisation for the largest UK TNCs in manufacturing and mining over a period of circa 35 years show considerable increases through time for the two main indicators: the Internationalisation index (I_i) and the number of host countries in which they operate. The latter is used as indicator for the propensity towards spread of direct activities into foreign nation-states. Thus both the propensity towards foreign projection and the propensity towards geographical spread by nation-states have been increasing.

An analysis has been presented of the results for those sub-samples of companies that remain in the top 500 league for 34, 27 and 17 years. The UK companies that consistently survived in the world top 500 list show a higher levels of internationalisation by both foreign projection and number of countries in which they operate. The longer the period of survival on the world's top 500 league, the higher the propensity towards foreign projection and spread of activities. This pattern is taken as evidence that the internationalisation strategies are crucial for survival and growth of the largest companies.

For the year 1997 only, a comparison has been made between the network of affiliates of UK TNCs in services and manufacturing. For services, the home base (UK) appears to be more relevant than for manufacturing. The latter sector has a larger average network of affiliates; operates in more host countries and has a comparatively stronger involvement in developing countries.

The UK pattern of globalisation versus regionalisation was analysed at both the micro and macro levels. At the micro level, for the largest UK TNCs in manufacturing and mining, the results show a steady decline of the home base – in terms of average number of affiliates – with growing relevance of host countries.

At the macro level, the pattern has been analysed on both the inward and outward sides. An intensity index has been used for the period 1981–96. The results show an increasing gravitation of the UK FDI towards developed countries, particularly North America. As regards the EU, there have been growing intensity ratios after 1992, particularly on the outward side.

The overall picture that emerges from the analysis in this chapter is one in which the largest UK TNCs have been increasingly spreading their network of direct foreign operations albeit within specific regional patterns. In the next part and particularly in chapter six, the results of chapters four and five will be used to argue for a theory of international production that takes account of the strategic behaviour of TNCs in relation to location in different nation-states.

Part III

Multinationality, regulatory regimes and the TNCs

Theoretical perspectives

Would not we shatter it to bits – and then
Re-mould it nearer to the Heart's Desire!

Rubaiyat of Omar Khayyam. The First Version
of Edward FitzGerald (1859: 73)

6 Nation-states, regulatory regimes and TNCs' strategies

6.1 Introduction

Part I of this book gives evidence of the remarkable growth in the number of TNCs worldwide and the range, size and impact of their activities. The evidence refers, in particular, to the considerable 'deepening' or 'intensity' of TNCs' activities and – indirectly – to their effects on the macro-economy.

Part II starts in chapter three with the development of a framework for the analysis of the changing nature of business governance, the increasing fuzziness of the boundaries of the firm and the associated rise in a variety of business networks. It then goes on in chapters four and five to consider a specific type of network with a locational and ownership dimension. This emerges, in particular, from the location of subsidiaries and associates of TNCs across nation-states. Evidence is given for the largest world TNCs for the year 1997 as well as in relation to changes over time for the UK TNCs in manufacturing and mining. The spatial 'extensity' and thus the widening of activities are analysed in relation to the number of host nation-states in which companies operate. This is done through estimates of a 'Network Spread index'. The concentration of affiliates in host countries is also assessed via a Herfinolahl index.

Thus part I shows that the TNCs have a strong role to play in all aspects of integration across countries. Part II gives evidence that their integrative role goes hand-in-hand with dispersion of production along organisational, locational and proprietary dimensions. These dispersion patterns contain elements of both integration and fragmentation across countries, as well as across organisations and production units.

The salient features that emerge from chapters two, four and five, can be summarised in the following stylized facts.

1 Considerable increase in the number of companies directly operating across nation-states.
2 Very large growth in the volume of FDI and international production worldwide.
3 Most FDI is directed towards developed countries as well as originating from developed countries.

4 Many developed countries are both host and home to large amounts of FDI.
5 Large amounts of FDI is intra-industry and often falls into the category of horizontal FDI.
6 Large companies appear to show a propensity for spreading their direct production very widely among host countries (chapter four). There is evidence that the propensity to spread has increased considerably through time (chapter five). The gravitation of UK stock of inward and outward FDI towards developed regions has also increased (chapter five).
7 The same decades that have witnessed the above patterns, have also seen the emergence and growth of a variety of networks along three main dimensions. This issue was discussed at some length in chapter three. Some evidence on this is also given in chapter two, section 2.7.

Some of these features and patterns can be explained separately from each other. Others are not so easy to explain (Graham, 1992). It is certainly difficult to make sense of all of them together. The features all together are contrary to expectations and in particular they seem to contradict the following elements: (a) traditional specialisation patterns between countries in terms of resources or manufacturing activities, and (b) the analysis of international production as resources or market based. The features refute the hypothesis that the motivation behind foreign direct investment should be seen mainly or only in terms of exploitation of local cheap resources (whether in the form of raw materials or labour). In fact, if the reason for FDI were to search for locations with low wages or availability of raw materials, one would not expect the majority of inward FDI to be in developed countries. Neither would we expect high levels of intra-industry FDI and the high and increasing levels of spread of activities by nation-states that we saw in chapters four and five.

The hypothesis of market seeking as the main motivation is difficult to reconcile with the fact that FDI is taking over from exports as the main mode of market sourcing. In fact, economies of scale combined with the lowering of transportation costs, would seem to favour production in a single or a few countries and the sourcing of other markets via exports. One would expect this to hold in all cases of market-seeking strategies. On the other hand, location in developing countries would be expected in cases of resource-seeking FDI.

Therefore the location pattern linked to these two main motivations would appear to contradict all the features 1–6 above emerging from the empirical results presented in the previous chapters. In relation to research, this creates the need to look for additional or alternative elements influencing the strategies of companies in order to make sense of these *ex-post* patterns.

Feature 7 is not consistent with the supposed advantages of internalisation and poses once again the dilemma of a dichotomy between market and hierarchy originally posed by Coase (1937). Features 6 and 7 can be seen

as dispersion and fragmentation features either by location – by nation-state – or by organisation (respectively for 6 and 7).

This chapter attempts a theoretical explanation of all these trends taken together and in particular of the 'extensity' dimension of TNCs' activities. It does so by analysing the possible relationship between international production, national, institutional and policy regimes and geographical fragmentation. The focus will be on the advantages of multinationality and on the spreading of production across nation-states, evidence of which was given in chapters four and five. Strategies of organisational fragmentation (point 7 above) – as analysed in chapter three – will also be considered in conjunction with strategies of geographical fragmentation.

The next section analyses why we need theories of international production and the transnational company. Section 6.3 stresses the advantages of multi- and transnationality for capital. Section 6.4 links uncertainty, conflicts and firms' strategic behaviour. Section 6.5 analyses companies' strategic behaviour towards labour and its impact on international production. Section 6.6 analyses the relevance of regulatory regimes for transnational strategies. Section 6.7 considers some possible macro effects of strategies of fragmentation of production. Section 6.8 summarises and concludes.

6.2 Do we need theories of international production and the TNC?

Let us assume for a moment a wholly theoretical world in which all national barriers and frontiers have come down; one single currency circulates; a single tax regime is in operation. In other words the world becomes one single country/nation-state and is governed as such. In such a world we would have no theory of international production: there would be no need for it. We would work within the confines of location theory to explain where production is located and with theories of the firm, business governance and market structure to explain the growth of firms, their boundaries and their behaviour vis-à-vis other firms. Thus we would not need a theory of transnational companies to understand *who* invests, *where* and *why*. Theories of transnational companies and of foreign direct investment are needed because we have nation-states and frontiers.

Does this mean that theories of TNCs and foreign direct investment are redundant and trivial? Could it all be subsumed under theories of investment independently of the nationality of ownership or the investor? Or under the theory of the firm in general? Is there much point in developing theories of 'international' production and investment or the 'international' firm? Would not theories of production, investment, and the firm take care of everything there is to know about the location of investment and production and of the behaviour of firms and their entry modes into foreign markets?

This is indeed the – tacit – approach taken in most traditional economics departments in which the international economy is dealt with at the macro

level by teaching and research into issues of international trade and balance of payments. Moreover, at the micro level theories of the firm and investment are not usually analysed in the context of the 'nationality' of the investor or the country in which the investment has taken place. Characteristics of companies other than multinationality (such as size or some strategic behaviour) are dealt with in the context of oligopoly theory and/or game theory. On the teaching side, multinational companies, their existence, growth, and range of activities are usually dealt with in a couple of lectures within a unit on industrial economics. This traditional approach can indeed be justified if one takes the view that the nationality of the investor and the transnationality of operations make no difference to the geographical pattern of investment and production or to the overall amount of production or to its impact on the country where the investment takes place.

The development and growth of separate theories of the TNC and its activities is evidence of the large number of researchers who think that 'nationality' and transnationality do matter in terms of impact on host and home countries; in terms of scope for investment; in terms of scope for the growth and range of activities of the firm; in terms of impact on the relevant industry.

However, a question we might ask ourselves is the following. Do existing theories of the TNCs give a special role to the 'transnational' dimension and if so how? And what does it mean to give a specific role to the 'transnational' dimension? The next two chapters consider how existing theories deal with the 'transnational' dimension. Chapter seven analyses the treatment of the 'transnational' dimension in some standard theories of international production such as those proposed by Aliber, as well as the internalisation theory, Dunning's eclectic paradigm and Hymer's approach.

Until recently, the development and growth of research on the TNCs has been confined mainly to 'Business Schools' on both sides of the Atlantic. However, in the last ten to fifteen years there has been a growing interest in the multinational company on the part of more traditional economics departments. This is mainly due to the following developments on the research front. The new trade theories have led to a re-consideration of the theory of industrial location on the part of economists. This represents a new development since the study of the economics of industrial location had traditionally been left to economic geographers.

Two elements led to this increase in interest in the TNC and its activities on the part of more traditional economists. The first one relates to the growing interest in location and geography issues on the part of 'new trade theories'. The second one relates to the fact that the same modelling techniques, which are applied to 'new trade theories', can be applied to 'new trade theories with MNCs'. This allows economists to look at MNCs in the context of general equilibrium theories, for the first time. Chapter eight is devoted to these issues and it analyses the role given to TNCs in the context of the paradigm on the new trade theories.

The theory developed in this chapter starts from the premise that some elements which are specific to nation-states are essential to an understanding of the pattern of international production because they affect the strategic behaviour of firms. Thus features of the nation-state are not only essential to the explanation of investment patterns and location of production in general, they are also essential in the understanding of firms' motivations and behaviour.

Operating across nations has three main dimensions. A spatial dimension in which the relevant issue is the geographical distance between (and within) production sites and markets. However, distance is not a cross-border dimension; it is not necessarily linked to nation-states' frontiers. The geographical distance between regions/cities of a single nation-state can be as wide as the distance between different nation-states. Some nation-states are spatially very large (US, China) and some cross-countries operations may involve relatively short distances or shorter than operations within the same nation-state: Milan is geographically closer to Geneva than to Reggio Calabria. Spatial distance is relevant for the costs of transportation and to a lesser extent also for the costs of communications. However, it is a dimension that applies equally within and between borders. The related costs of transportation are almost totally independent of whether the distance is across or between frontiers. I say 'almost' because there may be specific transaction costs attached to the trading of products across borders.

We can also identify a cultural – including linguistic – dimension in operations related to different areas. Normally the cultural differences tend to be higher – *ceteris paribus* – between than within nation-states. However, again this could be a generalisation: I am not sure, for example, whether Milan is culturally closer to Reggio Calabria than to Paris or Brussels.

A third dimension can be seen in the fact that nation-states have different regulatory regimes: different laws, regulations and customs governing production, markets and the use and movements of resources. Some differences in regimes exist between regions of the same nation-state. Conversely, in some regions different nation-states are moving towards integration, which leads to greater uniformity of regulatory regimes.

This chapter will highlight those aspects of the 'transnational' economy that have a bearing on the pattern, size and impact of international production and which can then help us to explain its salient features. The stress here is on investment across nation-states rather than across geographical space. Giddens (1985: 121) defines the nation-state as '. . . a set of institutional forms of governance, maintaining an administrative monopoly over a territory with demarcated boundaries (borders), its rule being sanctioned by law, and direct control of the means of internal and external violence'. In a similar vein, nation-states are here seen as the loci of a set of '*regulatory regimes*' that is of specific rules and regulations which apply to people, firms, institutions within the borders of the nation-state. Some of these rules and regulations stem from the legal or institutional system, some from

government policies. Most of them embrace several or all aspects of both institutional and policy frameworks.

Before going into a full analysis of regulatory regimes I shall first put the case for stressing the advantages of multinationality in the next section. This will be followed by an analysis of strategic decision in the contemporary large firm operating in oligopolistic conditions.

6.3 International production: learning by doing

The traditional approach to international production is based on the assumption that producing abroad is more costly and disadvantageous compared to domestic locations and that we must therefore look for compensating advantages[1] in explaining international production.

This is an issue that goes back to Hymer's famous dissertation (1960) and Kindleberger's (1969) follow up. In the 1960s, at the time the pioneer analyses by Hymer and others were developed, it was very reasonable to emphasise the disadvantages of producing in foreign countries. But is it now? International production has been increasing at a very fast pace; it is involving more and more countries, more and more companies. Large TNCs with a tradition of foreign investment are spreading their internal geographical networks wider and wider as we saw in chapters four and five. Moreover, the involvement of smaller companies is now considerable and growing.

Given these developments it seems appropriate to move away from the emphasis on disadvantages of foreign investment and start stressing the advantages of multinationalisation as such. Other authors have also emphasised the advantages of multinationality for firms (Dunning, 1980; Cowling and Sugden, 1987a). The stress on such advantages does not mean denying that foreign production may involve some additional costs; it just means that conditions are ripe for emphasising the advantages of operating abroad and of spreading activities in host countries.

The following developments point to the 'ripeness' of conditions. The growing internationalisation has meant that companies have learned more about the international environment. They can use the experience of investing abroad in developing strategies for future investment in the same country as well as in others. The acquisition of information on the conditions in different countries gives companies added advantages. Already in the 1970s, Vernon (1979) considers large TNCs to be 'global scanners' thus capable of scanning the world for investment opportunities and locations. Cowling and Sugden (1987a) emphasise TNCs' 'detection power', that is power to obtain, process and use information to their own advantage; for example, to get a stronger market position. Thus, TNCs learn to become more involved in international production partly through their own experience: because they have done it in the past, the process becomes easier. International involvement, in whatever mode (exports or direct production

or licensing), may lower the cost of further involvement in the same or different mode(s) (Petri, 1994).

There are also spillover effects and external economies. A long tradition of outward foreign investment generates external effects and benefits both in the source and host countries. In both these sets of countries a whole cultural and institutional infrastructure is developed around internationalisation, which leads to cumulative effects. Government agencies help at home and in the host countries while foreign policy and trade missions smooth the path towards operations in more foreign countries or towards making further inroads into the same ones. At the same time, private consultancy agencies spring up ready to train, advise and prepare for international operations. Business Schools train the new white-collar workforce to embrace an appropriately outward-looking culture. The condition of expatriation is made more and more acceptable by the fact that a growing number of people travel and work abroad; an appropriate culture of working abroad and travelling gradually develops and imitation effects set in. International mobility becomes more and more acceptable, indeed fashionable. Some difficulties are smoothed as boarding schools for one's children are available at home and – even more important – international schools develop in host countries.[2] Financial advice on taxation and housing also becomes available with the growing numbers of expatriate employees. Therefore the overall process becomes cumulative and the resistance to operate abroad on the part of capital, managers and employees diminishes. Thus, the marginal cost of investing abroad may diminish for the company with a long tradition of FDI but also for newcomers into the foreign investment field. Both outward and inward investment may – *ceteris paribus* – generate external economies and advantages that make it easier for other firms to branch out into foreign investment. This may help to explain the growing number of smaller companies which are investing abroad.

For all these reasons, it seems that times are ripe to stress the relevance of the firm's advantages of multinationality rather than – or not just – its costs. This will be the stance taken in the rest of this chapter.

6.4 Conflicts, uncertainty and strategic behaviour of firms

Firms operating in the perfectly competitive markets of neo-classical economics face neither uncertainty nor conflicts nor the need to develop strategies. Uncertainty is essentially done away with by the assumption of perfect information, a timeless framework and equilibrium conditions. Conflicts with other firms or indeed labour do not really exist as the markets are too atomistic for any actor to have power over prices or wages.

Under these conditions, the only decision that a typical firm has to take regards the efficient use and organisation of its resources so as to minimise

costs. As prices are exogenously fixed by the competitive market, no single firm can influence them and thus profit maximisation in the long run can only be affected by a reduction in costs. However, again, as our firm cannot exercise influence over the price of factors of production, cost minimisation is reduced to the best combination and utilisation of resources.

In the real world of modern capitalism with its oligopolistic markets things are somewhat different. The modern company faces both conflicts and uncertainties. There are conflicts with rival firms over market shares; there are conflicts with labour over the distribution between profits and wages; there are conflicts with governments over the distribution of the surplus.

Uncertainty is probably the strongest feature of any investment decision. In uncertain situations the assessment of expected costs and revenues becomes problematic and thus one of the priority objectives may be to diminish the degree of uncertainty and to spread risks, by developing appropriate strategies. Uncertainty becomes strategically relevant (Gillies and Ietto-Gillies 1991) whenever firms have the power to analyse it and to develop strategies to deal with it and possibly control it. If firms are totally powerless to control or limit uncertainty then it becomes strategically irrelevant. The uncertainty derives not so much from the physical world but from the behaviour of other players in the systems: governments, rivals, co-operating firms, labour and consumers.[3]

The position of the firm vis-à-vis other players determines its power towards them as well as its ability to deal with the uncertainty stemming from their behaviour. Strategic behaviour is the response of powerful actors to conflictual situations with other actors. The conflicts may sharpen in the face of opportunities or threats (Knickerbocker, 1973). The resolution of conflicts may involve confrontation and war or it may involve co-operation with other actors. A favourable resolution of conflicts with one actor may put the firm in a stronger position vis-à-vis conflicts with other actors. For example a firm's favourable position towards the workforce or the government(s) leading to low wage settlements or favourable grants or tax liabilities, may give the firm a more profitable position which it can use to fight off rivals and win higher market shares. The ability to gather and process information reduces uncertainty (Buckley and Casson, 1998a) and enhances power (Cowling and Sugden, 1998). Large firms operating in oligopolistic markets can use their power to lower risks or to turn uncertain situations to their advantage.

Chapter three explicitly introduced risk minimisation strategies and control objectives as issues affecting business governance and the establishment of business networks with organisational, locational and proprietary dimensions. Thus multinational location was partly seen in the context of strategies to reduce risks.

Strategies are needed by powerful actors to deal with other actors' actual and potential power. Power on the part of the various actors generates

conflicts and contributes to the uncertainty in the micro, meso and macro environments, thus the need to develop strategies. Therefore, power, uncertainty and strategic behaviour are closely linked. Strategies are designed by the large corporations' top managers to take advantage of opportunities or to fight off threats. They are also developed in order to use the firm's power to shift distribution to its own advantage vis-à-vis other actors. Cowling and Sugden (1998) stress the conflictual and distributional aspects of strategic decisions when they write that: '. . . strategic decisions are made by a subset of those involved with production, despite the objections of others' (p. 76). The distributional elements could be in relation to: (a) market shares, and thus involve strategies towards rival firms; (b) taxes and subsidies, and thus involve strategies towards governments and states; (c) wages versus profits and thus involve strategies towards labour.[4]

If markets were working perfectly, economic agents would not need – neither could they implement – strategies. In perfect markets no actor could have the power to shift distribution in its favour. The only economic decisions would then be decisions leading to better utilisation of resources and greater efficiency. Strategic behaviour would not be an issue. But then in perfect markets firms might not exist – as Coase (1937) points out – let alone transnational companies.

6.5 International production and strategies towards labour

Many theories of transnational companies deal, to a greater or lesser degree, with strategic behaviour towards rival firms (Vernon, 1966; Knickerbocker, 1973; Graham, 1978, 2000; Cowling and Sudgen, 1987a; Buckley and Casson, 1998b). Thus, the issue of conflicts over the distribution of market shares is dealt with extensively in the literature on the explanation of international production.

What is not given much weight is the issue of strategies towards labour and their role as possible determinants of the pattern of international production. There are various reasons for this neglect; some have to do with the underlying assumption that labour markets are just like any other market that the TNCs confront. Some have to do with the reluctance of economists to deal with issues of distribution between wages and profits. Some have to do with the fact that issues of labour markets, industrial relations, human resources management are considered to belong to a different branch of the social sciences.[5] Yet it is enough to open any quality newspaper to see that strategies towards labour play a very important part in the behaviour of firms. Again the issue is one of power on both sides. If power resided in less than two sides (in one only or in neither of them), strategies would be both unnecessary and pointless: there would be no question of shifting distribution.

Marginson (1993) criticises the efficiency approach to the explanation of developments in work organisation and trade unions advocated by

Williamson (1975, 1980, 1981). He stresses the differences between the contract of employment and other types of contract; he does so by emphasising the issues of bargaining power and the development of workers' countervailing power vis-à-vis employers' power and authority. Marginson points out how (1) issues of power are usually neglected in economics; and (2) the few economists who deal with power, tend to stress the coercive side (Marglin, 1974). He states that there is a lack of research on '. . . the role of non-coercive means of maintaining power, including socialization and legitimation . . .' (p. 160) on the part of employers.

One author who explicitly deals with distributional issues and strategies towards labour as determinant of TNCs' activities is Sugden (1991), a work which is further developed in Peoples and Sugden (2000). Following Marglin (1974), Sugden extends the argument about the reasons for the introduction of the factory – that is control over labour and the labour process – to the TNC. Firms become transnational in order to gain distributional advantages over labour. Transnationality is seen as a strategy of 'divide and rule' towards the labour force.[6]

The concentration of the literature on strategic behaviour towards rivals and not on strategic behaviour towards labour is compatible with the assumption of imperfect goods markets and perfect labour markets. The distribution elements in terms of market shares and in terms of wages/profits may be interlinked in the following sense. A stronger position vis-à-vis labour puts the company in a better position to gain a higher market share. Conversely, will a stronger market position give the company a stronger bargaining position towards labour? The acquisition of assets-specific skills may make labour less mobile. However, asset specificity can work in the interest of labour as well: the employed labour has been trained to work within a specific assets and organisation environment and thus hiring fresh labour might be very costly for capital. Besides, labour employed within the same ownership unit may find it easier to organise and take action. The growth of the firm and the concentration of specific industries into regions and countries may lead to an easier organisation for labour and to more power for labour vis-à-vis capital.

What strategies are open to companies that want to prevent or render it difficult for labour to acquire such power? It will be in the interest of companies to try and implement strategies leading to the fragmentation of labour. Various types of fragmentation are possible and in particular the following ones: (a) organisational fragmentation through the externalisation of some activities within an overall strategy of control of production; (b) geographical (by nation-state) fragmentation through the location of production in various countries. These two types of fragmentation are considered in chapter three under the organisational and locational dimensions of networks.[7]

These two fragmentation strategies are not incompatible and they may indeed be implemented together. The first strategy (organisational

fragmentation) involves the company in the externalisation of labour through out-sourcing strategies (such as subcontracting arrangements) which allow considerable control of production without the added responsibility for the labour employed for such production.

The second strategy involves the spread of production in regions, countries, areas not linked by common labour organisation regimes. The underlying assumptions here are the following: (i) that labour organisation is easier whenever labour works for the same 'ownership/management unit' and, that labour organisation is more difficult whenever employment is dispersed among many small units or some large and some small units; (ii) that labour organisation is easier within a single country than between different nation-states. This does not imply that, for labour, full harmonisation and homogeneity of organisation and power exists within each country. Differences can arise at the level of regions due to local conditions and structure, or between different industries or due to different structural features of production in terms of ownership/management arrangements as in (i) above.

The main point made here is that, on the whole, the differentials in the actual and potential for labour organisation and power is higher between countries separated by institutional, political, cultural, legal and governmental borders than within each border. We can then define areas of 'labour organisation regimes' as those geographical areas within which labour finds it easy to organise itself effectively. They are likely to be defined by the boundaries of the nation-state, though it is conceivable that they could extend only within smaller regions of the same country or that they could theoretically extend to various nation-states if labour manages to organise and mobilise across nations. Up to now such organisation and mobilisation has not extended beyond the confines of single nation-states.

Two consequences derive from this, both relevant for strategic decision in terms of the location of international production. First that – *ceteris paribus* – companies may seek to locate in areas of weak labour organisation regimes; thus foreign direct investment would flow – *ceteris paribus* – from areas of strong labour organisation regimes towards areas of weak regimes. This can help to explain the existence and direction of FDI flows in the same way as Aliber's scheme (1970) does by using currency regimes, as we shall see in the next chapter.

However, a second important point that should be made here is the following. Even if the differentials in labour organisation regimes across nations are not strong, it is maintained here that the *dispersion* of employment across many countries by the same company fragments the employed labour force and thus makes its organisation more difficult and its bargaining position weaker. Such dispersion gives a stronger position to capital vis-à-vis labour compared to a situation in which the growth of production within the same company were to occur all or mostly within a single country. Thus, we have a situation in which internationalisation of production

per se generates advantages for companies. To the extent that a fragmentation strategy is pursued, we have the following consequences: (a) *ceteris paribus,* we can expect a considerable increase in international production as a response to the power of organised labour within single countries; (b) it is not easy to identify the direction of the flow since dispersion *in itself* becomes one of the objectives of the strategy.[8] A strategy of dispersion and geographical fragmentation can help to explain the stylized facts 3–6 in section 6.1.

We can conclude with the following point. Transaction costs analysis attempts to explain internalisation versus externalisation and centralisation versus decentralisation on the basis of the existence of transaction costs; different business organisations evolve and grow in the attempt to reduce transaction costs and achieve efficiency.[9] In the approach sketched in chapter three and in the present chapter the decisions to decentralise production organisationally or locationally (by nation-state) are – to a considerable extent – strategic decisions aiming at fragmenting labour. They are not efficiency-driven decisions, but decisions driven by strategies for dealing with other power-holding players in the economic system and in particular with labour.

Fragmentation can take place on the basis of organisational dispersion thus leading to the various degrees of externalisation of production: from full out-sourcing and use of market transactions to higher degrees of control through subcontracting and similar arrangements; from the employment of labour full time and on permanent contracts to the casualisation of labour. Fragmentation may also take a geographical route. This involves the dispersion of production over many nation-states, countries/areas albeit within the internal, hierarchical organisation route. Evidence on this was given in chapters four and five. Some degree of both geographical and organisational dispersion and fragmentation is also possible for example through international subcontracting. The two strategies reinforce each other in the fragmentation potential and therefore in the difficulties they generate for the organisation and resistance of labour in its bargaining with capital.

6.6 Regulatory regimes: TNCs' wider advantages and their strategies

The previous section concentrated on fragmentation strategies towards labour of which the spread of production in different countries was seen as one. Here we shall analyse the wider advantages that the latter strategy gives the TNCs.

If we consider nation-states as defined by different regulatory regimes as in section 6.2, we must now ask ourselves whether companies' strategies are linked specifically to nation-states as loci of regulatory regimes and not just to nation-states as loci of geographical space. The answer to the question is positive for two reasons. First, because nation-states usually have

regulations/restrictions to the movements of factors and/or products. This element may push the company towards a strategy of entry mode via direct production in host countries rather than via production at home and export.

Second, and most relevant to our analysis, is the fact that the difference in regulatory regimes across nation-states generates opportunities for further advantages for the firm. This is likely to lead to a strategy of *spreading* of production in many different host countries. A strategy of dispersion of production in several nation-states has the following advantages for the TNC.[10]

1 It puts the TNC in a stronger position towards labour as was highlighted in section 6.5.
2 It also gives the company a strong bargaining position towards governments of the nation-states and their regions. Transnational companies can play one government against the other as well as one region against the other in their competitive bids for inward FDI. The advantages for TNCs can manifest in attractive incentive packages, be they in the form of grants or reduced tax liabilities.
3 Moreover, nation-states as regulatory regimes are also loci of specific currency and taxation regimes. Operating across several such regimes puts the company in a position to (a) maximise its returns from exchange rate fluctuation; (b) minimise its worldwide tax liability via the manipulation of transfer prices.
4 A strategy of multiple sourcing and thus of labour fragmentation has, among other things, the advantages of spreading the risks of disruptions to production due, for example, to industrial disputes in any one country. However disruptions to production can come about also through other problems such as national disasters. Most risks linked to the latter are not nation-specific and they are more likely to be specific to the physical and geographical environment. However, the ability of countries to cope with them and to minimise risks for business, is to a large extent, nation-specific and thus specific to the social, economic and political environment rather than to the physical environment. Thus a strategy of fragmentation by nation-states becomes also a strategy of geographical diversification in order to spread risks.

Strategies of locational (by nation-states) dispersion may give the TNCs advantages on all the four points above. Moreover, the bargaining position towards labour can also be improved by strategies of organisational fragmentation.

Two further questions arise from the approach developed in this chapter. The first one is the following: do companies derive only advantages from a fragmentation strategy? Is it indeed all a bed of roses? The answer is certainly negative, for the following reasons. First of all because there may be problems associated with operating below the most efficient size. There

are, indeed, organisational and managerial problems of operating networks which are too large as was mentioned in chapter three. Moreover, the diversity of regulatory regimes across which they operate, may in itself generate extra costs and uncertainty. For example, different currencies generate transaction costs; exchange rate fluctuations may bring losses as well as gains. Nonetheless, while these problems have been dealt with in the literature, the advantages of fragmentation have, on the whole, been rather neglected and this is, partly, the reason for stressing them here.

The second question is the following: advantages towards whom? There are certainly advantages over labour as highlighted in section 6.5. In addition, operations in many countries put the company in a strong position to bargain with governments in host countries for favourable conditions (point two above). The TNCs' access to a wide international network gives credibility to any threat of relocation of existing assets or the location of additional investment away from a specific country. The existence of multiple sourcing channels (whether actual or potential) in the various countries gives the TNCs also a powerful bargaining position towards suppliers. Any advantages towards labour and/or governments or suppliers can also be turned into advantages towards rivals.

The organisational and locational (by nation-state) strategies of production by companies may have been a significant contributory factor to the weakening of the power of labour and trade unions worldwide in the last two decades. However, the fragmentation strategy approach developed in this chapter is not to be taken as the single explanation for the location of international production. Far from it, there are clearly also other causes, some of which are industry-specific. Nevertheless, the increases in international production have been so large in the last few decades that we should perhaps stop asking 'Why international production?' 'Why TNCs?' and ask 'Why not?'. We should, in other words emphasise the advantages of internationalisation per se and not just its costs and disadvantages. This leads immediately to questions about sources of advantages as well as to questions about advantages over whom. It therefore raises issues about conflicts and distribution.

This approach would help us to explain various trends including the following ones.

(a) The increase in international production worldwide. It is more difficult to explain the pace and acceleration in its growth if we start from the assumption that international production has built-in disadvantages that need to be counteracted by other advantages. Therefore the emphasis on advantages of transnationality per se correspond to the reality of international production in the last three decades. It then helps us to focus on the sources of such advantages.
(b) The large and increasing geographical spread of activities as we saw in chapters four and five.

(c) The increase in the share of FDI directed towards developed countries.
(d) The increase in FDI that is intra-industry.
(e) The positions of countries that are both host and home countries.
(f) The growing trends towards network relationships in all their dimensions.

The patterns in (c), (d) and (e) are often explained in terms of location near markets (which tend to be in the rich environment of developed countries) coupled with differentiation of products to meet the taste of sophisticated consumers. However, markets can be sourced through exports as well as direct production. It is usually argued that producing near the market adds some advantages. This may undoubtedly be the case. However, we should also consider the fact that the entry mode via FDI has advantages on the production side as well as on the demand/market side.[11] The added advantage on the production side has to do with the role of 'regulatory regimes' and in particular with the following. Sourcing markets via exports means concentrating production in one or few countries and thus within one or few 'labour regulatory regimes'. The dispersion of production into many countries has the advantage of fragmenting the labour force employed by the same company into different regulatory regimes. This makes it more difficult for labour to organise and bargain for better conditions. Moreover, such dispersion gives the TNCs strong bargaining power towards governments.

In the last analysis, in looking for determinants of international production (including entry modes) we should consider the following. (i) Industry-specific elements. (ii) Location-specific elements linked to resources, factor endowments, markets, and growth rates. These elements may help in predictions about the direction of flows. (iii) Elements linked to countries'/nation-states' macro characteristics such as customs, currencies and labour organisations regimes, growth rates and markets. These will also help, to some extent, to predict the direction of the flows. (iv) Elements linked to advantages of multinationality per se. In particular: labour fragmentation; favourable bargaining position towards governments; spreading of risks and differentials in tax and currency regimes. (v) The extent to which companies and industries can implement strategies of organisation dispersion in which labour fragmentation can be achieved through the externalisation of production. In addition, another relevant element is the extent to which the two strategies of fragmentation – organisational and locational – can be combined together.

Elements in (iv) help to explain the *growth and spread* of international production and its macro trends as in (a) to (e) above, not necessarily the breakdown in the direction of the flow. While (ii) and (iii) are linked to *differentials* between countries (or areas), (iv) does not necessarily depend on differentials but on the advantages of overall spread of activities. Elements in (v) help to explain the changing patterns of contracts with labour as well as strategies of expansion via licencing, subcontracting, joint ventures either at home or abroad ((f) above).

There are many reasons why TNCs may want to locate in developed countries such as high-income markets, good infrastructure, and a skilled and educated workforce. The problem may be the high degree of organisation of the workforce; however, by spreading over many developed countries TNCs will face – *ceteris paribus* – a weaker labour force. Moreover, in countries where many TNCs operate (whether they are national or foreign) this process may lead to an overall weaker labour force because labour employed by any one company is weakened by the ownership fragmentation across the many countries in which the TNCs operate.

Thus the weakening effects of fragmentation on labour are cumulative because of the following. The weakening across a single TNC leads to cumulative effects in countries where many TNCs operate. This effect is independent of whether the TNCs are domestic or foreign; the key element is the fact that their strategies of dispersion affect labour's ability to become organised when working for the same company. Moreover, the geographical (by nation-state) and organisational fragmentation both contribute to the weakening process.

6.7 Highlights of some possible implications

The strategic behaviour of companies considered in the previous sections may have a variety of repercussions at the micro, meso and macro levels. The following points should be highlighted; some of them will be revisited in chapter ten.

1 The approach sketched here emphasises power, strategic behaviour and distributional issues in the analysis and effects of TNCs' behaviour. Distributional issues are particularly relevant in the context of the current unequal distribution of the ability of various institutions and groups to plan, organise and act transnationally. It necessarily raises the issue of countervailing power by those actors who do not possess transnational power or not to the same extent as the TNCs. As already mentioned these actors are: labour, governments, consumers and smaller businesses.

2 Currently, labour is not organised across countries. However, movements in that direction are not far off. The ease of co-ordination of action by labour located in many nation-states depends on many factors; geographical distance may be one. Cultural and institutional distance may be as, or more, relevant than the geographical one. The harmonisation of conditions can also occur through legislation, particularly within areas of integration such as the European Union (EU), and/or through concerted action on the part of labour in various countries. Particularly relevant for the near future is the harmonisation of conditions and labour strategies within the EU, through the Social Charter. The prediction would be that – *ceteris paribus* – such harmonisation will encourage more FDI spread in general, and in

particular will encourage location in countries not involved in the harmonisation. Oman (1994) considers the globalisation tendencies stemming from the regionalisation process. He stresses that the changes in industrial organisation, as the outcome of flexible production, lead to both regionalisation and globalisation. Competition games by corporate players and changes in competition regulation at the level of regions are likely to strengthen the process of globalisation. I would like to add one more item to the list of regional elements and regimes that may lead to further globalisation: the harmonisation of the labour market within specific regions such as the EU.

3 The information and communication technologies have helped companies to devise strategies in which the centralisation of ownership and management[12] is coupled with decentralisation and fragmentation at the organisational and/or locational levels. However, the spread in the use of ICTs is beginning to occur among other social groups and actual and potential users. It is possible to envisage a not too distant future in which the exchange of information may help to achieve better organisation among labour working for different firms or for the same ownership unit but in different countries. However, we should take all this with some caution. Exchange of information and knowledge of conditions in other units or countries does not necessarily mean labour solidarity. The achievement of solidarity may require the development of new social, economic and political conditions.

4 There are strong contradictions for both powerful TNCs and those governments that want to support them. The transnational companies derive advantages from the harmonisation of products standards and markets within regions such as the EU. However, they also derive advantages from the geographical fragmentation into different regulatory regimes. The tensions and contradictions are clearly identifiable in Britain, which is indeed the country most dominated by TNCs via both inward and outward activities. Most TNCs – whether British or foreign ones – operating in Britain want a deepening of the EU integration process. At the same time the TNCs-friendly British government strongly opposes any move towards the harmonisation of tax and labour regimes within the EU.

5 In section 6.4, stress was laid on how the strategic behaviour of TNCs towards other economic players – other companies, labour, government – may be partly due to a desire to reduce uncertainty and risks. However, attempts to reduce uncertainty at the micro level may lead to higher uncertainty at the industry and macro level. Knickerbocker (1973) points out how a clustering of FDI in specific countries may be the outcome of oligopolists' strategies aiming at decreasing uncertainty. At the same time actual or potential aggressive behaviour by oligopolists will increase the level of uncertainty in the industry. There are also consequences at the macro level of the approach presented in this chapter. If companies follow a strategy of

fragmentation and decentralisation they may in effect become more *footloose ex-ante.*[13] If spreading production per se becomes an advantage for TNCs, existence of the location advantages in a specific country may not give it much assurance of attracting investment by domestic and/or foreign TNCs. Besides, as companies become more and more 'global scanners' the rate of return necessary to attract them into some countries may increase. Thus, the uncertainty over the taking up of investment opportunities in specific countries may increase. Metzler (1988) stresses the need to cut uncertainty in order to lower the marginal rate of return and increase the level of private investment in any one country. However, on the basis of the analysis in this chapter, it may be that the strategic behaviour of TNCs leads to higher levels of uncertainty at the macro level and to the raising of the marginal rate of return in some countries.

6 The difficulties facing governments in the design and implementation of economic policies in a world of increasing globalisation and deregulation are well known. The difficulties apply to stabilisation policies but also to industrial policy. After many years of neglect, industrial policy is gradually resurfacing and, at last, becoming part of acceptable policy agendas. However, in a world of blurred boundaries of the firm at the organisational, locational and proprietary levels, industrial policies need radical rethinking. Strategic behaviour by TNCs requires strategic policy response by governments otherwise the strategies of TNCs become the nation-states' strategies by default (Cowling, 1990). Moreover, the existence of strategies by each large TNC does not result in an overall coherent strategy. Far from it, each may add to the uncertainty in the economic and business environment with negative consequences for both the countries and the TNCs themselves. Thus the absence or ineffectiveness of an industrial policy leads to more uncertainty at the macro level with the consequences discussed in (a) above. Coherent industrial strategies and policies are indeed necessary (Sawyer, 1989; Cowling, 1999). The existence and growing power of TNCs makes them more necessary.[14]

7 I would like to finish by making one last remark related to the political arena. The nationalistic movements that are currently tearing some countries apart across the world appear, at first, anachronistic in the face of the greater economic integration in some areas and particularly in the face of the considerable integration taking place as a result of TNCs' activities across the world. Of course these two opposite pulls (separatism/devolution and integration) could be just one of the many contradictions to be found in the economy and in society in general. The causes of the separatist movements or the formation of 'quasi-states' (Castells, 1997) are likely to be many and different for different countries and areas even though imitation always plays a role at least in the timing of the open conflicts. The search for causes must be extended wider than the realm of economics

(Graziani, 1993). Nevertheless, economics does have a role in terms of both causes and effects. The development of transnational production has increasingly meant that national borders, and the size of nations, is becoming less of a problem in terms of companies' strategies; indeed they may derive considerable advantages from them as argued in this chapter. As yet they are more a problem for labour and its ability to organise and implement strategies. Large companies can plan, organise and control production activities across countries. Other economic actors, and in particular labour, have not yet developed organisational capabilities across nations. At the time when mass production and economies of scale were paramount, large markets and mass production facilities were necessary and, in that context, the large size of a country played a big role in their realisation. Now economies of scope often make up for the lower economies of scale that the location and/or organisational fragmentation of production (across countries and through out-sourcing) may bring about. Besides, the spread of production across different national borders brings with it the advantages of multinationalisation per se, which were highlighted in the previous sections.

Thus, from the point of view of the TNCs, political and economic integration brings many advantages among which are large markets, harmonisation of regulations as well as good physical and human infrastructures. It may, however, bring some problems connected with the harmonisation of labour organisation. The fragmentation of nation-states into 'quasination-states' may lead in the opposite direction and in particular to a situation of different 'regulatory regimes' from which TNCs can derive advantages as we saw in the previous sections. When various issues are considered, there may be less inconsistency – from the point of view of capital – than it appears at first between separatist movements and trends towards integration:[15] regional integration secures large markets and good infrastructures, while the formation of quasi-nation-states gives the TNCs advantages of operating across different regulatory regimes. Nevertheless, we should add that, of course, the disruption and uncertainty created by the political situation developing around separatist movements is certainly not conducive to investment in the short to medium term, whatever the possible advantages and disadvantages in the long term.

This approach may go some way to explain the enthusiasm of some writers for the combination of 'quasi-states' with globalisation, which, at first sight, might appear incongruous. Ohmae (1995a, b) argues in favour of independent small regions defined by homogenous economic conditions.[16] He refers mainly to prosperous regions within larger dualistic or pluralistic economies such as the North of Italy or the Guandong province in China. Liberalisation or globalisation would secure markets and open investment opportunities while borders around smaller units (five to twenty million people) would give disparities of regulatory regimes (quasi-states). This combination of globalisation and different regulatory regimes is – in my view – the one most advantageous to transnational companies. This is one instance of

the view that many advocates of globalisation do not really advocate harmonisation but more liberalisation and free access to markets combined with regulatory regimes, which they can manipulate to their advantage. The advantages derive from two sources, through the exploitation of the differences in regulatory regimes between the different quasi-states. But also because large and powerful TNCs would be confronted by smaller states and less powerful and divided governments. It may seem an irony that the advocates of bigger more powerful companies advocate smaller states. However, the irony disappears when we look carefully into the reasons behind it.

Ohmae advocates independent region states 'because the scale of effort they imply is managerially doable' (1995b: 106). Moreover, he sees that; 'If allowed to create their own linkages with the global economy and to strike their own deals with the managers of global enterprises, each of these regions may still prosper . . .' (p. 107). Two points should be made here. First, it is not clear why larger units are 'managerially doable' when they are TNCs but not when they are states. Second, dealing directly with the global economy may (or, indeed may not) be advantageous for prosperous region-states but it is certainly not the case for the less prosperous ones who will be forced – if the separatists win the day – to organise themselves into smaller, poorer, weaker quasi-states.

6.8 Summary and conclusions

This chapter stresses the need to concentrate on advantages of multinationality and on strategic behaviour on the part of companies in looking for the determinants of the growth, patterns and organisation of international production. The strategic behaviour is linked to uncertainty, as well as to power towards other actors in the economic system such as rivals, labour, governments and smaller firms. While a good amount of literature has concentrated on strategic behaviour towards rivals, this chapter concentrates on strategies towards labour and, to a lesser extent, strategies towards governments.

Nation-states are defined in terms of their regulatory regimes (section 6.2). Multinationality allows the TNC to operate across different regulatory regimes and to take advantage of the differences between them in its conflicts with labour over the distribution (of profits versus wages) and with governments (over, for example, tax liabilities or the size of incentives).

As regards labour, the hypothesis put forward in this chapter is that TNCs follow fragmentation strategies towards the labour force. These strategies can take a locational (by nation-states) and/or an organisational mode. In both cases they are likely to lead to the weakening of the power of labour towards capital.

What corroboration can be found for the fragmentation hypothesis? I would like to mention three groups of potential or actual pieces of evidence.

First, the indicators of extensive and growing locational dispersion of TNCs' direct activities by nation-state as given in chapters four and five. In addition, the considerable growth in organisational fragmentation since the 1980s is now well acknowledged and supported in the literature (chapter three as well as chapter two, section 2.7).

A second corroborative element could, theoretically, be found in analyses of the strategies of TNCs' top management. On this point the empirical evidence required for full corroboration is very difficult to come by. It would require information on *ex ante* strategic discussions, plans, behaviour of the top managers of TNCs. Peoples and Sugden (2000) attempt to corroborate their thesis of 'divide and rule' with some indirect evidence on strategic planning from Britain, the US and Canada. As regards Britain they analyse the possible playing off of workers in various countries by foreign TNCs operating in Britain. For the US they consider reports from trade unions on bargaining tactics of foreign-owned firms. For Canada they give evidence on how '. . . international unions might have greater bargaining strength than national unions when negotiating with a transnational corporation' (p. 187). The instances they give are 'strongly suggestive' (as they repeatedly state) of their hypothesis. They are also strongly suggestive of the fragmentation hypothesis put forward in this chapter. However, we cannot talk of strong corroboration. More research may be possible on this point, though there are intrinsic difficulties.

Third, the fact that this hypothesis helps to make sense of other salient features in the pattern of location of international production, is a strong point in favour of the hypothesis. The TNCs' desire to take advantage of different regulatory regimes in their dealings with labour or governments, helps to explain the geographical (by nation-state) dispersion of international production. Moreover, it also helps to explain other stylized facts such as those presented in section 6.1, points 3–7. These constitute an 'explanatory surplus' of the hypothesis, and hence corroborate it.[17]

Some readers may find the hypothesis of strategies to weaken the power of labour difficult to accept on the basis that during the last twenty years labour has been very weak indeed. The deliberate policies of many governments and international institutions such as the IMF in developed and developing countries and the high levels of unemployment have largely been responsible for such weakening. However, I would maintain that the locational and organisational fragmentation strategies of TNCs have also contributed to such weakening. I would, in other words, see this element as strengthening the corroboration of the hypothesis.

I should, nonetheless, like to make two further points. First, the fact that I consider that more corroboration is necessary and possible. Second, that I do not consider that 'fragmentation' and conflicts towards labour or governments are the only motivation behind the locational and organisational pattern of international production. There are many other important

elements such as search for markets, direct strategies towards rivals, cost cutting. However, the inclusion of issues linked to conflicts and power towards labour and governments adds an element that may help to bind together all the salient features.

7 Regulatory regimes in the theories of international production

7.1 Introduction

Chapter six presented a theory that stressed the relevance of 'regulatory regimes' for the explanation of TNCs' strategies and their activities. This chapter reviews the way in which some prevalent and influential theories of international production and the TNCs have dealt with differentials in regulatory regimes and their possible impact on the pattern and size of FDI. It deals specifically with the way – and the extent to which – these theories incorporate elements of what I have in this book (chapter six) referred to as 'regulatory regimes'. Thus the criterion for including specific theories and the focus on each of the theories dealt with here, is whether and how to deal with issues of 'regulatory regimes'.

The aim of the chapter is not to present a full literature review of theories of international production. For such a task the reader is referred to Buckley (1981), Ietto-Gillies (1992), John *et al.* (1997: ch. 5) and Cantwell (2000). Neither will the chapter deal with all the details and intricacies of the theories selected for presentation.

Before plunging into the theories it is worth noting that the various explanations may refer to different elements and concepts. Some authors attempt to explain the wider activities and entry modes of TNCs from exports to international production to licensing. This is indeed the case of Dunning's eclectic paradigm. Others concentrate on FDI and international production.

The chapter proceeds as follows. The next section deals with Hymer's theories while section 7.3 considers the internalisation and eclectic approaches. Aliber's theories are dealt with in section 7.4.

7.2 The role of regulatory regimes and nation-states in Hymer's theory

Following the large increase in international business activities in the post-World War II period which saw, in particular, a large outflow of foreign investment by US companies, questions began to be asked as to the reasons

and effects of companies' investment abroad. Two economists working on opposite sides of the Atlantic and both originating from countries which were hosts to US companies' foreign investment started the ball rolling: John Dunning, working in Britain in the 1950s, started asking questions about the differentials in productivity between British-owned companies and subsidiaries of US companies operating in Britain. Steven Hymer, a Canadian economist writing a dissertation at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts under the supervision of Charles Kindleberger, tackled the question of why companies bothered to invest and produce abroad.

Hymer began by considering the existing literature on foreign investment and found it wanting. The prevailing neo-classic paradigm, used up to that point, considered all foreign investment as due to differentials in rates of return between countries. Such differentials were linked to the relative endowment of labour and capital of countries. Capital would flow from capital-rich countries to those with relative capital scarcity in search of higher rewards.

Hymer (1960, published 1976) noted that this theory failed to fit the pattern of foreign investment and in particular it failed to explain: (a) why a considerable amount of international production is funded through host-country loans rather than through movement of funds from the home country, as one would expect if the relative capital endowment were at the root of foreign investment; (b) why countries appear to be involved in cross-investment, with both countries being home and host to investment; (c) why the pattern of foreign investment appears to be more industry- than country-specific.

One of Hymer's perceptive insights was to distinguish between portfolio investment and direct investment. The latter he linked to the desire for control of assets and activities. While a theory based on differentials in rates of return might explain the pattern of portfolio investment, the explanation of direct investment – whose pattern fits the points (a) to (c) above – must be sought in issues related to market structures and industrial organisation. It is the issue of control in the context of imperfect, oligopolistic markets that helps to explain direct investment and their geographical and industry pattern.

How are nations and their features introduced in Hymer's work? Hymer states at the beginning of chapter two of his dissertation that 'In the absence of special features, the enterprises operating in a country are likely to be national firms, for national firms are likely to have advantages over foreigners' (Hymer, 1960: 34). Hymer saw foreign firms being disadvantaged because: they would have a lower level of information on local conditions; communications would be more difficult. Barriers to international operation would arise from '. . . discrimination by government, by consumers, by suppliers' (p. 34). Moreover, the companies would face exchange rate risks as well as a possible risk of nationalisation. Thus nations and their regulatory regimes

(such as currency regimes and indeed tax regimes) are seen as posing barriers to international operations.

As already mentioned in chapter six (section 6.3), Hymer stressed the disadvantages and additional costs of foreign production. When faced with all these disadvantages why would firms still want to be involved in international operations? The answer lies in the combination of an imperfect market structure and the related issues of specific advantages by firms. The possession of advantages allows the firm operating abroad to overcome the local barriers and at the same time to secure control over local operations which will further strengthen its position towards rivals.

Hymer (1979) summarises his views on the determinants of FDI and the role played by oligopolistic rivalries, in the following passage:

> Foreign investment thus depends on three things: the size of the demand in the foreign market, the availability of labor and other factors of production for manufacturing, the existence of competitors who can enter the industry if the multinational firm does not. Rapid growth of a foreign country attracts foreign investment both because of the expanding market and because of the growth of rival capitalists – local capital, capital from other countries, or state capital. (p. 143)

In later works Hymer developed his outlook on multinational companies from a Marxist perspective. Two elements of his later work are important for our analysis. His analysis of the relationships between MNCs and labour and between governments and MNCs.

His views on MNCs and labour are clearly highlighted in Hymer (1972)[1] which tackles issues of control over the labour process, division of labour and effects on the power of labour. There is division of labour within the company, between companies and between countries. The MNC is involved – and is crucial to – all three types of division of labour.

> The vertical stratification of the corporation rests on a division of mental and manual labour. . . . although the multinational corporation spreads production over the world, it concentrates co-ordination and planning in key cities, and preserves power and income for the privileged. . . . the power at the bottom is thus weakened by the spatial division of labour. Each national or regional labour force performs a specialised function which is only meaningful to the integrated whole, yet it has no understanding of the whole. (p. 87)

Hymer (1979) highlights how the international hierarchy of labour is reflected in the internal organisation of the company, with tensions and conflicts emerging as the company is pulled in two different directions. He writes with reference to multinational corporations and their internal structure:

> On the one hand, they must adapt to local circumstances in each country. This calls for decentralised decision making. On the other hand, they must co-ordinate their activities in various parts of the world and stimulate the flow of ideas from one part of their empire to another. This calls for centralised control. (p. 161)

Thus the division of labour within the company coincides with a spatial division of labour and, in the case of the MNC, with an international division of labour. Hymer sees the effects of such a division as negative for labour. He explicitly writes: 'The international division of labour keeps the head separate from the hand, and each hand separate from every other. It thus weakens the potential resistance to capital control' (pp. 87–8). Here he expresses more forcefully the separation of mental from manual labour and its consequences within international operations of the same company.

As regards the relationship between MNCs and governments he considers it in the context of developing and developed countries (Hymer, 1970[2]). The focus here is on the uneven bargaining power between large, powerful, modern corporations with 'international horizons' and governments which '. . . are typically administratively weak and have very limited information outside their narrow confines' (p. 50). He concludes that:

> In any particular negotiation between one country and one company, power in the form of flexibility, knowledge, and liquidity is usually greater on the private side than on the public side of the table. (p. 50)

Hymer sees multinational corporations creating serious problems for the developed countries as well because '. . . they reduce the ability of the government to control the economy' (p. 51). The effectiveness of economic policy is greatly reduced and the economy as a whole may suffer with negative consequences for everybody, including, the companies themselves. He concludes his 1970 paper with a 'subjective evaluation' (p. 52) summed up as:

> The large corporation illustrates how real and important are the advantages of large-scale planning, but it does not tell us how best to achieve wider domains of conscious co-ordination. . . . multinational corporations integrate one industry over many countries. The alternative is to integrate many industries over one country and to develop non-corporate linkages between countries for the free flow of goods and, more important, the free flow of information. . . . the multinational corporation reveals the power of size and the danger of leaving it uncontrolled. (p. 53)[3]

It seems to this writer that Hymer analyses the consequences – for labour and for governments and their policies – of the activities of MNCs. However, the interplay of co-operation and conflicts between these various actors was

not seen in the context of determinants of international operations. The determinants are analysed in his original doctoral dissertation in terms of market structure, power, control and related firms' specific advantages. Thus the determinants are linked to conflicts among rival firms though not to conflicts between the MNC and labour or the MNC and governments.

7.3 Regulatory regimes in the internalisation and the eclectic approaches

Most of the literature on international production and the MNC is based on assumptions of market imperfections. The imperfections considered in the various theories are sometimes structural (as in Hymer, 1960 or Vernon, 1966 or Knickerbocker, 1973 or Cowling and Sugden, 1987a) sometimes transactional, sometimes both.[4]

The first type of imperfection relates to assumptions of market structures, which depart from perfect competition and are usually oligopolistic. The second type of imperfection refers to the difficulties, costs and uncertainties of operating and transacting in the market. Dunning (1977: 403) mentions a third type, 'cognitive' imperfections which arise from a low level of information and from uncertainty.

The analysis of transaction imperfections goes back to Coase's (1937) seminal paper in which he explains the existence and growth of the firm in terms of difficulties, uncertainties and costs of market transactions. The internalisation of transactions is, therefore, seen as an organisational response to avoid costs and inefficiencies in the allocation of resources via the market. Penrose (1959, 1987) stresses also the advantages of using internal firm-specific resources. The limit to internalisation and thus to the growth of the firm is set by diseconomies of scale including difficulties of managing large organisations.

The transaction costs analysis took over in a big way in the 1970s and has been used as an attempt to explain many aspects of business in terms of efficiency of different organisational structures. Williamson (1975, 1981) used it to explain the internal organisation of firms. It has recently been applied to the explanation of external business networks as we saw in chapter three.

Our main interest here is its application to the explanation of the multinational company (McManus, 1972; Buckley and Casson, 1976; Hennart, 1982, 2000; Rugman, 1982). In this approach the multinational firm is explained in terms of efficient organisation of production which leads to internalisation across borders.

The internalisation theory of the multinational enterprise considers decisions to internationalise as part and parcel of decision to internalise. In a more recent work Buckley and Casson (1998b) analyse and model choices between different entry modes and different types of cross-border controls. In it they assume an imperfect market structure as well as transactional imperfections.

They specifically highlight the '. . . importance of keeping the distinction between *location* effects and *internalization* effects very clear in any discussion of foreign market entry strategy' (p. 555). Penrose (1987) points out that costs and advantages of internalisation refer to the firm in general and that, on the whole, they are not specific to national or international production. Nonetheless, I shall try to single out some nation-specific elements – both costs and benefits – in the internalisation approach.

Buckley and Casson (1976) list four main groups of factors that are relevant for the internalisation decision. Some are industry-specific, some region-specific, some firm-specific and some nation-specific. The latter are those 'relating to the political and fiscal relations between nations concerned' (p. 34). Among the advantages, which are specifically international are those, that stem '. . . from government interventions in international markets, through *ad valorem* tariffs or restrictions on capital movements, and from discrepancies between countries in rates of income and profit taxation' (p. 38).

These are all elements that give scope to the manipulation of transfer prices in order to maximise profits globally. The incentive to internalise is particularly strong in the case of vertically integrated production and in the case of knowledge-based products.[5] The 'knowledge' elements work in favour of internalisation in two respects. First, because the firm wants to keep knowledge internally and not disseminate it externally, while using it as widely as possible within the firm itself. Second, because it is difficult to assign a value on the transfer of knowledge, thus transfer prices can be set by the company without fear of comparisons with arm's length prices.

Among the disadvantages of internalisation that are specifically international are the costs arising from multicurrency accounting, the risk of expropriation and the possible discrimination against foreign firms. This last point is an element mentioned also by Hymer and it may reflect some of the concern of the 1960s and 1970s when there was more of a confrontational than co-operative stance between MNCs and governments (Dunning, 1993, part IV as well as chapter ten in this book).

Dunning's (1977, 1980, 2000a, 2000b) eclectic paradigm clearly dissects the specific elements of international involvement by companies which are to be explained. In particular, he points out that we need to identify 'who', that is which firm, is in the best position to take up an investment opportunity. This he does via an analysis of the so-called 'ownership' advantages. 'Where' the investment takes place is taken care of via his analysis of 'location advantages'. The mode of entry into a market can be analysed via 'internalisation' advantages and thus through organisational elements.

In principle, these elements are equally applicable to the national as well as the international economy. Location advantages can be applied to different regions of the same nation-state. Most ownership advantages of firms could be considered independently of the nation(s) in which the company operates. The organisational elements are probably the least nation-specific as noted by Penrose (1987).

In fact, Dunning introduces specific 'multinational' elements in his list of advantages, particularly in relation to ownership advantages. There are also explicit references to (a) advantages of multinationality and to (b) effects of different policies of different governments in the explanation of international business and its varied forms. The latter one is what I have here called different 'regulatory regimes' with respect to government policies.

Multinationality (point (a)) affects the ownership advantages of companies (Dunning, 1977, 1980). In particular, Dunning (1980: 276) lists three types of ownership advantages 'which specifically arise because of multinationality'. Multinationality enhances other ownership advantages 'by offering wider opportunities'. Moreover, it gives the MNC: 'more favoured access to and or better knowledge about information, inputs, markets'; and the 'ability to take advantage of international differences in factor endowments, markets. Ability to diversify risks e.g. in different currency areas'.

Moreover, there are internalisation advantages arising from different policies of governments in different countries (point (b) above). In particular: internalisation allows the company 'to avoid or exploit Government intervention (e.g. quotas, tariffs, price controls, tax differences etc.)'. It also allows it 'to be able to engage in practices e.g. cross-subsidization, predatory pricing etc. as a competitive (or anti-competitive) strategy'. These are all elements, which are enhanced by the manipulation of transfer prices set for the internal exchange of services and components.

Cantwell (1989) points out that in the approach based on ownership advantages – whether within the market power framework of Hymer (1960), Knickerbocker (1973) or Cowling and Sugden (1987a) or on the eclectic framework of Dunning (1977, 1980) – location and ownership advantages reinforce each other. Companies strengthen their position from operating in specific locations; countries/regions benefit from cumulative inward investment, particularly if it is technologically based. Thus location and ownership advantages are mutually reinforcing and endogenous. This is in contrast with the internalisation theory, which is based on the efficiency of superior organisation systems in cutting costs and risks of market exchanges. The latter theory takes location conditions and advantages as fully exogenous.

Thus the overall conceptual framework of the internalisation and eclectic approaches are quite different. In one case the stress on efficiency takes the theory very close to a neo-classical analysis: in the other (the eclectic theory) it moves towards a market power/conflict approach. In relation to the main issue of interest in this chapter the following points can be made. Both theories incorporate elements related to tax regimes and – to a lesser extent – to currency regimes. Neither considers the issue of labour regulatory regimes. Dunning's approach stresses the advantages of multinationality as well as its costs.

7.4 Regulatory regimes as an explanation of international production: Aliber's theory

Of all the existing theories of MNCs and their activities, the one which is most embedded in what I have here called 'regulatory regimes' is the one proposed in Aliber (1970). Before we proceed to discuss the relevant points (for the present discourse) of Aliber's theory, the following clarification should be made. Aliber's theory is strictly speaking a theory of FDI that is of that part of investment and international production financed from direct investment flows.

Like most authors before and after him, Aliber starts with the assumption that the firm operating in foreign countries faces specific costs. He writes: 'The firms engaged in direct foreign investment operate at a disadvantage relative to their host-country competitors – they incur additional costs associated with management of an enterprise at some distance, and they incur political risks' (p. 17).

A second assumption is that the firm has a monopolistic advantage, which he calls 'the patent'; this is a capital asset that produces an income stream. 'The value of the patent is the capitalised value of the difference between production costs before and after the patent is used' (p. 22). The capitalised value is affected by the interest rate at which the capitalisation is done. The patent can be exploited for sourcing a foreign market by producing at home and exporting, by licensing to a third party or by directly producing abroad.

Aliber criticised theories of FDI based on industrial organisation for their lack of 'foreign' elements. He introduces two elements of 'foreignness' into his analysis and defines areas around them: customs areas and currency areas.

In a theoretical world of unified currency areas and separate customs areas, the effects of trade tariffs and obstacles to trade act similarly to transport costs. The higher the tariff, the more difficult it is to export and thus the more likely it is that the firm will source the foreign market by direct production. Thus the higher the tariff the more likely it is that production will be dispersed among different countries. 'The tariff creates an incentive to use the patent within each customs area; the amount of the incentive will vary with both the value of the patent in the source country and the height of the tariff' (p. 23). However, if the cost of doing business abroad is too high, the patent may be licenced to a host-country firm.

In a world of unified customs areas and different currency areas, the story runs along the following lines. The unified customs areas would, theoretically, lead – *ceteris paribus* – to concentration of production while foreign markets will be sourced via exports. However, here come the effects of different currencies. In separate currency areas the interest rates – which affect the capitalisation of the patent – are affected by current and expected exchange rates.

The income stream for the patent is capitalised at a higher rate for source-country than for host-country's firms for the following reasons. The weak

currency is subject to a currency premium to counterbalance the effects of exchange risks on the yield. Aliber (1971: 52) writes on this point: 'The difference in yields reflects two factors. One is expected changes in exchange rate; the other is uncertainty about expected changes in the exchange rate'.

The second reason is the following. The assets in the host country are subject to the above risk premium only if denominated in the host-country currency. However, assets belonging to foreign companies are denominated in the source-country currency. Thus the same assets will have different values when owned by foreign than by host-country firms if the strength of the two currencies is different. Aliber (1971: 30) writes on this point: 'The market is subject to a bias, in that host-country equities are subject to the currency premium while source-country equities are not'. Thus foreign firms from strong currency areas are in a stronger position to exploit the patent compared to host-countries firms in weak currency areas. The overall conclusion is that countries with strong currencies will tend to be home to companies investing in countries with weak currencies. The advantages will be stronger in industries that are capital intensive. Moreover, this explains the tendency for FDI to take the mergers and acquisitions mode.[6]

The customs areas issue can be incorporated in a location advantage/disadvantage framework: it affects both location and ownership advantages and indeed links them together. In fact, the strength of the currency, which is a country-specific characteristic, confers ownership advantages to the firms.

Dunning (1971), in his comment on Aliber's theory, notes that the theory is a special case of the effects of imperfections on capital markets. He points out that one of its major weaknesses is the difficulty in explaining cross-country FDI. In fact the theory leads to the same conclusions as the neo-classical theory of portfolio investment criticised by Hymer.

In summary Aliber's scheme is characterised, among other things, by the following: (a) the assumption that, *ceteris paribus*, FDI involves costs and disadvantages over and above the same investment at home. Hence, if we want to explain why firms invest abroad, we must look for compensating advantages. (b) It is a model in which FDI is strictly efficiency driven: different customs and/or currencies 'regimes' lead to different relative costs of production and distribution which affect the investment decision. (c) Different customs and/or currencies 'regimes' are necessary and sufficient for FDI to take place. The differentials in 'regimes' identify both the existence and direction of FDI flows. (d) Currencies and/or customs regimes are linked to 'nations' or 'areas' of economic and political integration. 'If the world were a unified currency area, exchange risk and a currency premium would not exist then the analysis of direct foreign investment would be in terms of the economics of location' (Aliber, 1970: 34). In conclusion, therefore, Aliber's theory of FDI is linked to nations' regulatory regimes and specifically to currencies and customs regimes.

Aliber (1993) develops the original theory in a more ambitious direction. The original theory (1970) aimed to explain why firms from strong

currency countries are likely to be at an advantage vis-à-vis host-country firms when acquiring foreign assets. The main conclusion was that special conditions in the source-country gave ownership advantages to the firms headquartered in it and this enabled them to be competitive with host-country firms in spite of the extra costs and disadvantages that operating directly in a foreign country would involve them in.

Aliber's latest project (1993) is to explain the pattern of FDI from the point of view of countries: why and when countries become outward or inward investors. There have been many attempts in the literature on international business to link the activities of the TNCs to macro elements. Vernon (1966, 1979) made a first successful attempt at tying together discussions of MNCs and their mode of entry to macroeconomic conditions and comparative advantages of countries. Dunning (1982) and Dunning and Narula (1994, 1996) relate the foreign direct investment of countries to stages of development. Pitelis (2000) links FDI to aggregate demand conditions.

Aliber (1993) moves from a purely microeconomic approach (as in Aliber, 1970) to a more macro approach. His later project attempts to link his original theory based on currency areas and 'regimes' to growth rates in various countries. Differentials between 'areas' are still necessary and sufficient to explain the existence and direction of FDI. The relevant differentials he considers in this recent work are those between growth rates. Nation-states experience higher growth rates at different times in history due to the different pace of industrialisation. Countries with higher growth rates have younger capital stock and younger work force in employment. Both these elements lead to high productivity and lower unit costs. Thus, countries with rapid growth experience high demand for products (due to increasing incomes per capita) and falling unit costs. According to Aliber (1993) foreign direct investment will flow to the high growth country/area, encouraged by the advantages listed above, as well as by movements in real exchange rates linked to the differentials in growth rates.

Changes in comparative growth rates between countries affect the competitiveness of plants located in them, the relative value of their currencies and thus – according to his original theory (1970) based on currency areas – the pattern of direct investment. This is how the effects of growth on the exchange rate link the latest theory to his earlier one.

While the original theory by Aliber (1970) was strictly linked to regulatory regimes, the more recent one (1993) is only indirectly so. The main element in explaining the direction of the FDI flows in his 1993 theory is the differential in growth rates, with exchange rates playing a secondary role. The regulatory regimes relevant to his 1970 theory are those related to tax and currency regimes. No mention is made of labour regulatory regimes.

7.5 Summary and conclusions

This chapter has reviewed the way in which international issues and 'regulatory regimes' have been dealt with in the prevalent theories on MNCs, international production and FDI. I discussed, in particular, Hymer's theory, the internalisation one and Dunning's eclectic paradigm as well as Aliber's 1970 and 1993 theories.

Some of these theories introduce elements of what, in chapter six, I called 'regulatory regimes'. They are mainly related to tax regimes and their effects on the volume and pricing of intra-firm exchanges of goods and services, as in the internalisation and the eclectic approaches. Customs and currencies regimes are at the heart of Aliber's theory (1970) of FDI flows between countries.

Hymer deals extensively with issues of labour in his later work. However, the treatment of labour is in terms of the effects of TNCs' activities on it. There is no suggestion that labour's regulatory regimes might be a determinant of the value and pattern of FDI.

In fact, the conclusion of this chapter is that none of the prevalent theories incorporates issues of labour regulatory regimes across nation-states as a possible determinant of FDI and other foreign entry modes. Some theories consider the advantages as well as the disadvantages of operating in foreign locations (such as Dunning's eclectic approach). However, none of them sees the dispersion of activities as an advantage particularly in relation to labour. The only theory that incorporates such elements is the 'divide and rule' hypothesis developed in Sugden (1991) and Peoples and Sugden (2000), as mentioned in chapter six.

8 International production in the context of the 'new' trade theories[1]

8.1 Introduction

As mentioned in chapter six the literature on international business and on the activities of multinational companies has, on the whole, remained outside the boundaries of interest of most economics departments for a very long time. The considerable developments we have seen have been sparked off by research in business schools or in non-mainstream economics departments. This was the state of affairs up to the 1980s.

In the last fifteen years or so the situation has slowly been changing: multinationals and their activities have increasingly been the subject of research in more traditional economics quarters.

The reasons for the earlier marginalisation are many and in particular have to do with the approach to economic problems within the established economics profession. Economics is usually studied with a view to reaching equilibrium solutions under optimisation conditions. To this end often drastic, unrealistic assumptions are made. Friedman (1953) using an instrumentalist approach to methodology of science defends unrealistic assumptions on the basis that such assumptions are needed in all sciences, social and natural. He argues that the main issue is not whether in any theory the assumptions are realistic – because they never are – but whether the theoretical model behaves *as if* the assumptions were realistic. This position was strongly criticised by philosophers of science (Musgrave, 1981) as well as other economists (Samuelson, 1962).

The assumptions of competitive, atomistic markets of most neo-classical economics sit oddly with the real world of large, powerful multinational companies. Equilibrium analysis is usually carried out either at the micro level or at the general equilibrium level. Industry-level studies are not so amenable to equilibrium analysis. Yet this is the level at which the impact of MNCs' activities is strongest and it is the level of study, which has brought most relevant results in the international business literature.

Cantwell (1989, 2000) distinguishes three types of approach to international production and the MNC. A *microeconomic* approach, which is exemplified mainly by studies of the MNCs in terms of efficient organisa-

tion of production as in the internalisation theory. A *mesoeconomic* approach, which links large MNCs to the market structure of the industry. This is exemplified by the 'market power' approach, which includes authors such as Hymer (1960), Knickerbocker (1973) and Cowling and Sugden (1987a). Dunning's eclectic approach exhibits elements of both approaches. A *macroeconomic* approach in which the size, direction and pattern of FDI is linked mainly to macroeconomic conditions, though specific firm and industry elements may play a role. This is the case of Vernon's (1966) international product life cycle, Dunning and Narula's (1994) development path analysis and Aliber's (1993) link between growth rate of countries and FDI direction.[2] Knickerbocker (1973) and Graham (1978, 2000) specifically address the issue of location pattern of FDI.

None of these three approaches can place the MNC and its activities within a general equilibrium framework. This may be one of the reasons for the marginalisation of international business studies to business schools or, to some extent, to specific studies in industrial economics.

However, since the 1980s successful attempts have been made at incorporating the MNC within a general equilibrium framework and thus within the body of mainstream economics. The story starts with developments in the theory of international trade.

The last twenty years have seen considerable advances in the economics literature on international trade at both the theoretical and applied levels. Concomitantly and linked to the new trade theories, we have seen a surge of interest in the theory of location of economic activity and in particular in theories of the geographical concentration of activities.

The new theoretical approach has been sparked off by developments in the mathematical modelling of imperfect competition and increasing returns (Dixit and Stiglitz, 1977).[3] This, in turn, has affected the way we look at international trade and at location of economic activity as well as at patterns of development and growth. Krugman (1991a: 10) writes that: '. . . increasing returns are in fact a pervasive influence on the economy, and . . . these increasing returns give a decisive role to history in determining the geography of real economies'. It can be added that their introduction into economic theory is having a pervasive influence on economics. Indeed the new approach may be considered to be a new paradigm in that it is affecting a very large part of economics, it is widely accepted by the economics profession, and it is giving scope for the rethinking, re-formulation and re-modelling of a large body of economic theory.

As the theory of industrial location came to the forefront of economic analysis, economists were bound to start asking questions about the role of multinational companies in their theories. Thus some economists have attempted to incorporate MNCs' activities in the new trade and location theories. The modelling of MNCs' activities within the framework of the new trade and location theories has been done by making assumptions on inputs/costs at the level of the firm, on the size of markets, on scale economies

at plant level and on transportation and other spatial and non-spatial transaction costs. The overall framework is one leading to multi-plants production in a geographical context. It appears to be equally applicable at the intranational as at the international level. Differences between the two cases are seen in terms of transaction costs and, sometimes, barriers to the mobility of factors and/or products.

Considerable space is devoted in this chapter to the treatment of MNCs in the context of the new trade theories in order to: (a) highlight the relevance of such theories for the theory of location and some of its implications; (b) consider how explanations of MNCs' activities have been fitted within the new trade and location framework; and (c) critically analyse such explanations in the context of the analysis of MNCs' strategies presented in chapter six.

The chapter continues in section 8.2 with a summary of the main points in the new trade and location theories and considering some of their implications for other aspects of theory and policy. It then goes on to consider how these theories have been adapted to accommodate the activities of MNCs (section 8.3). This is followed by some criticisms of the way MNCs' activities are being incorporated and some questions about the adequacy of the models in dealing with MNCs (section 8.4). In particular a critique is developed (sections 8.5 and 8.6) in terms of the adequacy of a general equilibrium framework to deal with the strategic issues arising from different 'regulatory regimes' as developed in chapter six. The last section summarises and concludes.

8.2 The new trade and location theories and their implications

The new trade theories (Krugman, 1985, 1991a, 1998) stress that trade and specialisation are due to: (a) advantages of economies of scale as well as (b) traditional comparative advantages due to differences in factor endowment (as in Ricardo and Heckscher-Ohlin). Thus trade and specialisation are driven by some static and exogenous elements due to factor endowment and by more dynamic and endogenous elements linked to increasing returns. The latter can be of two types. In the Marshallian type, increasing returns are achieved through spill-over effects from company to company. In this approach scale economies remain compatible with perfect competition because the scale of the industry is the source of the increasing returns and not the scale of the firm/plant (Krugman, 1985, 1991a).

The second type of economies is internal to the firm and the relevant scale is that of the plant/firm. These Chamberlinian types of scale economies require a departure from the perfect competition model and a move towards monopolistic competition. Products are differentiated and the firm has a monopoly in relation to its product. However, the existence of a large number of firms in the industry tends to wipe out any monopoly profits.

Moreover, scale economies give advantages to some companies vis-à-vis others. The firm is assumed to operate with a single plant and thus firm-economies and plant-economies coincide.

The internal and external types of scale economies are not exclusive and indeed they can combine to accelerate the process of specialisation and the concentration of industry, which can take place horizontally and/or vertically. The vertical clustering can be enhanced by the non-tradability of some intermediate products which, combined with increasing returns at the industry level, can 'induce the formation of "industrial complexes", groups of industries tied together by the need to concentrate all users of a non-tradable intermediate in the same country' (Krugman, 1985: 30).

The assumptions behind the various theories and models are usually the following: (i) existence of transportation costs and other spatial transaction costs; (ii) immobility of labour and capital; (iii) the existence or gradual formation of scale economies of internal (Chamberlinian) and/or external (Marshallian) type; (iv) a large market due to the size of the population combined with high incomes per capita (Krugman, 1985, 1998).

Thus increasing returns, whether linked to the firm or the industry, are used to explain trade, location of economic activity, clustering and agglomeration. They are also used to explore the effects of regional integration and of the changing pattern of activity in the North–South divide. Krugman and Venables (1996) explore the links between integration, clustering and adjustment problems deriving from integration. The authors see the probability of clustering of activities to be higher at the inter-regional level than at the international level because barriers are stronger at the international than regional level. In the context of their analysis, international integration is defined in terms of reduction in such barriers; in fact 'as a reduction of cost of doing business across space' (p. 961).

An integrated international economy becomes more like the inter-regional economy. The increased integration leads to the removal or reduction of barriers to agglomeration; more intermediate and/or final products will be located in areas where the industry already thrives. Thus the final result will be further polarisation and uneven development within the integrated region. One of the conclusions, relevant for policy, is that integration is best achieved between countries at similar stages of development. Whenever the countries are at different stages of development, the outcome of integration will be further polarisation.

The new paradigm allows economists to give a role to history, historical accidents, and historical developments. As scale economies are achieved dynamically, history matters (Krugman, 1991a, b). This can be interpreted in two ways. In the sense that companies grow gradually and achieve internal economies in a pattern of cumulative virtuous circle. It also means that regions and countries are affected by historical accidents that lead to the location of some industries within them and thus to a possible virtuous circle of further clustering and agglomeration.

Does this mean that locations/countries are destined to be part of a polarised irreversible system? That once the virtuous or vicious circle starts there is no turning back? Krugman and Venables (1995) give a negative answer to these questions in explaining the apparent reversal in the pattern of industrial location between North and South.

The 1960s and 1970s were characterised by concerns about uneven development worldwide with industrialised core countries of the Northern hemisphere gaining at the expense of the peripheral underdeveloped countries. The 1980s and 1990s saw the expression of opposite concerns: the alleged de-industrialisation and immiserisation of the North because of relocation of production to the developing countries.

Krugman and Venables explain both these concerns and indeed the trends behind them with the aid of the new trade theories and increasing returns. The key element in their explanation is the gradual reduction over time of transportation costs combined with immobility of labour across nations. When the reduction in costs reaches a first critical level we have concentration of industries in the core countries – where the high levels of incomes per capita secure the bulk of demand – because costs are low enough for the products to be exported. Further reductions in transportation costs may lead to another critical level at which the low wages in developing countries combined with low transport costs may make it cost-effective to locate industries in developing countries and export the products to the developed ones.[4] Thus both elements in the core–periphery relationship are explained by the dynamics of changes in transportation costs over time. Moreover, the expectation of changes and shifts in itself can initiate and accelerate the changes; '. . . expectations may be self-fulfilling' (Krugman, 1991a: 27). In conclusion, the pattern of agglomeration and uneven development need not be permanent and cumulative. As the technology and costs of transportation change, the pattern of location of activity also changes.

Nonetheless, it should be noted that the experience of the last few decades seems to corroborate the polarisation thesis. In spite of widespread talk and writings on convergence, the reality of comparative growth rates and living standards worldwide appears to be one of increasing divergence between the majority of developed and developing countries (Pritchett, 1996).

8.3 Multinationals within the 'new' trade and location theories

In the new trade theories approach sketched in the previous section, increasing returns – whether linked to the firm or the industry – are used to explain trade as well as the geography of economic activity (Krugman, 1991b), clustering and agglomeration, industrial districts (Krugman, 1991a, 1998; Venables, 1998). They are also used to explore many policy issues stemming from agglomeration and cumulative processes (Krugman, 1987; Krugman and Venables, 1996).

This framework, however, cannot explain direct production in other countries by MNCs. Essentially, if there are external economies of agglomeration and the internal economies are plant economies, then it can only make sense to produce in one location/country and supply other markets through exports. There is a basic conflict and tension between a theory that predicts clustering of production activities and the reality of companies that spread their activities in space sometimes horizontally, sometimes vertically, sometimes both ways.

At the theoretical level it is possible to solve the conundrum by adjusting some of the assumptions and this is what economists have done. The assumption of capital immobility is obviously removed; moreover, constraints to the movements of products are sometimes introduced such as barriers to trade. However, the main adjustment is in the treatment of internal economies. They are split into two types: (a) economies at the level of the firm and (b) economies at the level of plants. The first type of economies encompasses any input/costs (organisational, technological, managerial/marketing) whose output (whether material or, more often, immaterial/services) is of benefit to – and can be used by – the company as a whole. No matter how many plants are going to use this output, the marginal cost for each of them is low or negligible. The firm remains still a Chamberlinian one, though it operates within a multi-plant framework. In addition to this, the industry as a whole may also achieve scale economies of the Marshallian type.

Within this general framework there are two main routes to the introduction of international production by MNCs which, realistically, are always assumed to originate from developed countries.[5] The first route is designed to explain why MNCs locate in developing countries. This is done by assuming different factor endowments and the production of intermediate as well as final products (Helpman, 1985; Helpman and Krugman, 1985). Moreover, the company as a whole achieves economies of scale on joint inputs whose outputs are assumed to be *specific* to the company. These outputs are usually services linked to research or to brand names and advertising. Their specificity means that they cannot be traded on the market without loss of quality or loss of monopolistic position over, for example, the results of research. Thus the services of the joint inputs must be internalised and they create scope for intra-firm trade in invisibles. This is part of the debate in the industrial organisation literature between internalisation versus externalisation decisions as we saw in chapters three and seven. The model leads to a pattern of vertical integration of production across countries and to intra-firm and intra-industry trade. The different factor endowment leads to specialisation between countries, while joint inputs favour production under common ownership.

Within this general approach Helpman (1984) assumes that there are fixed costs that are company-specific but not plant-specific. At the plant level we can have either fixed and variable costs or only variable ones. The joint inputs (and the services output that derive from them) are specific to

the company; this means that they cannot be bought on the market without loss of quality. Thus the services of the joint inputs must be internalised. The company cannot sell at arm's length or license: it must produce directly in various countries if it wants to exploit the differences in factor prices. The services of the joint inputs will be traded internally between subsidiaries or subsidiaries and parent thus giving rise to intra-firm trade. Helpman, however, does not deal with transfer prices and their cause/effects link with intra-firm trade.

Krugman (1985) also approaches the issue of MNCs' activities in the context of the new trade theories. He lays stress on technology as a fixed cost/joint input that produces a product that could theoretically be sold on the market or licensed. The reason why the external market solution is not followed has to do with the fact that there are transaction costs of operating on the market. He writes: '. . . multinational enterprise occurs whenever there exist related activities for which the following is true: there are simultaneously transaction cost incentives to integrate these activities within a single firm and factor costs or other incentives to separate the activities geographically' (pp. 33–4). The main defining characteristic of MNCs is the control of activities across borders: 'What the new models make clear, above all, is that multinational enterprise is *not* a type of factor mobility. It represents an extension of control, not necessarily a movement of capital. The key lesson is that direct foreign investment isn't investment' (p. 34).

The second route deals with the location of FDI into developed countries. The approach starts with Markusen (1984) who stresses the relevance of intangible assets for MNEs and links intangibles to economies of multiplant operations. His formalisation of the notion of joint inputs is further developed in his later works. Markusen (1995) probes into the circumstances that lead a company to produce directly abroad or to license or use other entry modes. He starts by giving some stylised facts about MNCs' activities worldwide in the last few years at the macro and micro levels. At the macro level they include the following: (a) considerable growth in FDI; (b) two-way FDI in most advanced countries; (c) a large amount of FDI takes place on an intra-industry basis and is horizontal rather than vertical; (4) a large share of international trade takes place on an intra-firm basis.

At the micro and meso levels the following stylized facts are highlighted: (1) the degree to which production is accounted for by MNCs varies considerably across industries; (2) MNCs tend to be prominent in industries characterised by high R&D intensity; they tend to have high value in intangible assets, to employ a large technical and professional workforce, and to engage in product differentiation; (3) corporate age and multinationality tend to be correlated; (4) size seems unimportant above a certain threshold; (5) there is some evidence that plant-level scale economies are negatively correlated with multinationality.

Markusen goes on to expound and use Dunning's eclectic theory (Dunning, 1977, 1980) based on ownership, location and internalisation advantages and then to consider more specifically the last set of advantages in the context of the internalisation theory of the MNC (McManus, 1972; Buckley and Casson, 1976).

Markusen then develops his own model of MNCs' activities and location. His model is based on two countries and on the following further assumptions: (i) international production is of the horizontal type only, thus the MNCs produce the same/similar type of products in both countries; (ii) both countries are at the same stage of development, they both have large markets and similar size of markets, thus plant economies of scale can be achieved in both; (iii) the two countries have similar factor endowment and thus the same costs of production; (iv) there are large transport costs and/or barriers to trade but not to FDI; (v) there are large fixed costs of production at the level of the firm related to joint inputs such as R&D or costs linked to the development of brand names such advertising. The firm owns intangible assets; moreover, joint inputs and activities at the level of the firm as a whole are very important. The intangibility of the assets poses constraints on the degree to which the company can license and generally externalise its activities without risk of losing quality control or its monopoly over technology.[6]

In conclusion, MNCs' activities and direct production of an intra-industry type are to be found in industries in which there are large fixed costs at the firm level combined with intangible assets – 'knowledge capital' – and outputs. However, plant-level fixed costs and economies are not very significant. There are large costs of spatial transactions such as transport costs and there may be barriers to trade though not to FDI. The large markets – due to the size of the country and the high level of incomes per capita – secure the viability of production in both countries. The similar stage of development of the countries means that they have similar factor endowment and thus similar costs of production.

In the context of this framework, Markusen explains the pattern of FDI, bilateral cross-country FDI in developed countries and intra-industry FDI. He identifies the conditions for home-only production with the existence of uninational companies (UNCs) which are responsible for producing at home and meeting foreign demand through exports. In contrast to this pattern of sourcing, MNCs meet foreign demand via FDI and direct production in the country. He writes on this issue: '. . . multinationals displace national firms and trade as countries become more similar in size, technology, and relative factor endowment' (p. 180) and later talks of: '. . . a process of multinationals displacing trade . . .') (p. 181).

The end result is that international production is of the horizontal type and FDI exhibits an intra-industry pattern. Direct production abroad is preferred to export due to assumptions (ii) and (iv). As in Helpman (1984), the intangibility of the assets poses constraints on the degree to which the

company can license and generally externalise its activities without risk of losing quality control or its monopoly over technology.

In summary, the various approaches of the new trade theories highlighted here use all or some of the following assumptions to explain various elements of direct production by MNCs. (1) Similar size of countries in terms of population and GDP per capita leads to demand for the same products; (2) high transport costs and/or barriers to trade make it costly/difficult to meet the demand through exports; (3) fixed inputs at the level of the firm, combined with low economies of scale at the plant level, lead to economies of multi-plant production; (4) the specificity of some inputs leads to a preference for direct production over licensing.

8.4 Tensions and contradictions in the new paradigm

As discussed in the previous sections, the various models of international trade and location of activity are developed by: (a) starting with basic assumptions of scale economies of internal and or external type and (b) superimposing on them a variety of assumptions regarding transport costs and other spatial transaction costs as well as assumptions regarding the size of markets. The spatial transaction costs can vary through time and can be different at the inter-regional from the international levels: transaction costs between nations are, usually, assumed to be higher than at the intra-national level.

There are various basic elements of contradictions and tensions in the paradigm. Dunning (1995) points out how neither old nor new trade theories take account of the following two major issues which have been, and are, extensively researched in other branches of economics and business studies. The first one is the organisation of production and its impact on the volume and pattern of trade.[7] The second one is the growing relevance of created firm-specific assets which are more mobile than the traditional country-specific, natural assets. The different specificity of the assets combined with firms' multinationality of operations may lead to a divergence between comparative advantages of countries and the competitive advantages of firms. This affects the pattern of international transactions, including the volume and structure of trade.

The main element of tension has to do with the contradiction between theories that predict clusters and agglomeration and the reality of MNCs that spread their activities wide[8] as the evidence in chapters four and five shows. Some authors solve the contradictions by postulating conditions that lead to multi-plant production. As we saw in the last section, multinationality of production is introduced in the new trade and location theories by postulating a series of assumptions related to the following points. (i) Fixed costs at the firm level over and above any fixed costs that may (or may not) exist at the plant level; this means that there are economies of organising production under the same company umbrella though not necessarily under the same plant. (ii) This, together with an assumption of high

transport costs leads to the efficiency of production near the market and therefore to multi-plant production. (iii) The company specificity of the services deriving from the joint inputs (particularly in terms of R&D) leads to advantages of internalisation and thus to a preference for direct production over licensing and exchanges at arm's length. Within this general framework some authors concentrate on horizontal FDI (Markusen) some on vertical FDI, according to what facts they are trying to explain: for example intra-industry FDI (as in Markusen, 1995) or industrial districts (as in Krugman, 1985).

Another type of contradiction relates to the compatibility of the Chamberlinian framework with the nature and characteristics of MNCs including their size and power. The framework is one of small firms producing differentiated products, while typical MNCs are large and operate in oligopolistic markets. Arising from this is the problem of their historical development, at what point do firms become MNCs, how do their cost functions differ from those of UNCs? Do they differ from the beginning or is it a case of later development? Do UNCs and MNCs co-exist or do the latter replace the former? Do all firms become MNCs or only some of them?[9]

A further problem of the enlarged paradigm is due to a reality of co-existence and complementarity of trade and FDI that is inconsistent with the theoretical conclusions in the models. This issue is particularly prominent in Markusen's model, where he concludes that multinationals' direct production displaces production by national firms and their sourcing of foreign markets via exports.

In fact, Markusen's model leads to the identification of UNCs with trade and of MNCs with FDI only. This is a problem, because MNCs are responsible not only for all FDI worldwide but also for very high percentages of world trade as we saw in chapter two. The involvement of MNCs in international trade is due to a variety of elements in their international production pattern as discussed in chapter two.[10] First, when international production is vertically integrated across countries, this automatically leads to the movements of components from country to country for further processing, and thus to trade in components which often takes the form of intra-firm trade. Second, the location of horizontal plants/subsidiaries across countries may be motivated by the desire to penetrate markets in third countries. The case of US and Japanese investment in the UK in the run up to its membership of the EC was partly motivated by the opportunity it offered of jumping trade barriers in other European countries from the UK location.[11] Moreover, horizontal and/or vertical production in other countries may lead to the export of investment goods by other companies from the home to the host country (Reddaway, 1967, 1968). Markusen's concentration on horizontal-only FDI leads to his neglect of the first type of exports, those generated by international vertical integration, which can be very substantial (Casson and Associates, 1986).[12]

The last problem derives from the treatment of inter-regional and international issues in the new theories and it is connected to the main contradiction mentioned at the beginning of this section. This I consider to be the main point of tension and to it we now turn.

8.5 Inter-regional, international economics and the MNCs

The new paradigm deals with MNCs' activities in the context of a theory of location in which appropriate assumptions lead naturally to a multi-plant organisation of production. This approach is specific to spatial location; it is one that geographers have been concerned with for a long time and one that economists – in their newly found enthusiasm for location and agglomeration – are now embracing. In fact, Krugman (1991a: 33–4) argues 'for the acceptance of economic geography as a major field within economics, on a par with or even in some sense encompassing the field of international trade'.

Some of the contradictions and problems are due to the fact that a theory, which is basically rooted into geography and space, is being fitted into a framework related to nations and different regulatory regimes.

As we saw from the works reviewed in the previous sections of this chapter, the basic assumption common to the two strands of MNC-enlarged theories of location, is the following. There are large, fixed costs at the firm level mostly related to large, intangible knowledge-based assets; there are, therefore, economies of organising production under the same company umbrella though not necessarily under the same plant. The specificity of services deriving from the joint assets, leads to advantages of internalisation and thus to a preference for direct production over licensing and exchanges at arm's length.

In the approach to the explanation of MNCs' activities summarised in the previous sections, the main assumptions leading to so-called multinational production are not specific to international activities; they relate to the structure of inputs and costs and they apply just as well to inter-regional location of activity. The models are multi-plant models in which the various plants could be located in different regions of the same nation-state (California, Michigan, Texas) or in different nation-states (Germany, US, UK, Canada). The difference between the two situations is one of degree: the spatial transaction costs per unit of distance may be higher between than within nations; the constraints to factors mobility may be higher; there may be restrictions to trade at the international level which would not exist at the inter-regional level.

In the MNCs-enlarged new trade theories, nations are defined in terms of the extra costs and barriers to factors and products mobility they pose over and above the costs of operating at the inter-regional level. Krugman (1991a) is quite explicit on this point. He writes, 'Nations matter – they exist in a modelling sense – because they have governments whose policies

affect the movements of goods and factors. In particular, national boundaries often act as barriers to trade and factor mobility' (pp. 71–2) and later: '. . . countries should be defined by their restrictions' (p. 72). The emphasis here is on spatial and other transaction costs and on barriers to the mobility of factors and products.

However, there are wider differences between nations that are of relevance to the understanding of MNCs' activities. In chapter six I have defined nation-states and their boundaries in terms of the regulatory regimes they encompass. Such regimes, may refer to taxation, currencies, customs or to labour regimes, i.e. to the boundaries within which the workforce can organise itself and bargain for wages and work conditions. In this approach the essence of international production is that TNCs can operate across different regulatory regimes. This specific, distinguishing feature characterises TNCs over and above the fact that operating across nation-states means also operating across space, as in economic geography and multi-plant models. In contrast, the essence of inter-regionality (or intra-nationality) is operations across space but within a single – or more uniform – regulatory regime.

Does this approach matter in terms of the analysis of TNCs within the new theories of trade and location? If their ability to operate across different regulatory regimes does not matter in an economic sense, in the sense that it does not produce relevant economic effects, then there is no point in bothering with multinationality per se as a distinctive characteristic from multi-regionality. Internationality then is a specific case of spatial economics and differs from inter-regionality only in relation to the level of spatial transaction costs some of which may derive from restrictions and constraints imposed by governments.

But if multi- and internationality is *qualitatively* different and produces specific effects over and above those related to spatial economics, then a different framework may be needed for dealing with TNCs' activities.

In chapter six stress was laid on two elements: (1) advantages of multinationality and (2) strategic behaviours of TNCs towards other players and in particular labour and governments. It was concluded that as part of this strategic behaviour TNCs might derive advantages from operating in a multinational environment and from spreading their operations over and above the requirement of organisational efficiency.

The firm's advantages highlighted are not a feature of the country's factor endowment – whether static or dynamic – nor of endogenous elements linked to increasing returns, nor of spatial distance between countries. They are specific to a characteristic of the multinational firm: its ability to operate across different nation-states and thus different regulatory regimes. They are benefits of multinationality per se; they are not linked to core/periphery issues but rather to the degree of spread of activities among many nations/regulatory regimes.

These points are summarised and contrasted to the MNCs-enlarged new trade and location approach in Table 8.1. Krugman (1998: 8) presents in a

Table 8.1 Forces affecting the location of production

Applicable to inter-regional and international levels		*Applicable to international level only; due to different regulatory regimes*	
(1) Centripetal[1]	*(2) Centrifugal*[1]	*(3) Centrifugal*	*(4) Spreading*
		Regulations affecting:	
Market-size effects (linkages)	Immobile factors	(a) factor mobility	Fragmentation strategies towards labour and governments
Thick labour markets	Land rents	(b) product mobility	Risk minimisation strategies
Pure external economies	Pure external diseconomies	(c) transfer prices	Strategies linked to transfer prices

Note

1 These two columns are taken from Krugman (1998: 8). The title of the table from which they are taken is 'Forces Affecting Geographical Concentration'.

single neat table the main forces that push the location of production towards the centre or the periphery. These forces are reproduced in columns 1 and 2 of Table 8.1. Column 3 lists forces which are government- and regulation-specific but which affect the geographical concentration along the same lines as in Krugman's framework.[13] Column 4 lists those strategic elements which cannot be fitted into a core–periphery framework because they push the company towards the spread of activities among many countries. These are all elements which contribute to the explanation of international production as argued in chapter six. Regulations likely to encourage the manipulation of transfer prices – such as those related to taxes or currencies – may sometimes push towards the periphery only, sometimes towards the spread of activities into many countries.

The following points emerge from the table. First, the new trade and economic geography theory – whose forces are summarised in Krugman's (1998) framework – leads to a pattern which is (a) clear cut in terms of centripetal and centrifugal forces and thus to a pattern which considers location in terms of core and periphery; and (b) all the relevant forces act consistently at the micro and macro level. Thus the analysis can neatly be extended from the micro to general equilibrium and to the efficient allocation of resources at the micro and macro levels. These forces apply to both routes used in the MNC-enlarged theory of location provided we assume some joint inputs for the company as a whole. MNCs may engage in strategies of spread of activities, whether they are operating horizontally or vertically integrated production across countries.

Second, at the level of nation-states, when the effects of different regulatory regimes are taken into account, the geography of industrial location is affected in ways and by forces which do not always coincide with the ones affecting location at the regional level. In particular, the introduction of assumptions of different regulatory regimes – different nation-states – introduces additional elements of centrifugal forces affecting factors or products mobility or those elements which would lead to the manipulation of transfer prices (as in column 3).

Third and most important, the assumptions about the existence of different regulatory regimes introduce forces, which are neither centrifugal nor centripetal but push towards strategies of spread of activities in many countries (column 4). These are decisions arising from strategic behaviour rather than from efficiency considerations. Thus issues of conflicts resolution/avoidance and of distribution play a key role in the development of TNCs' location strategies, as argued in chapter six.

Fourth and arising from the previous points, the consistency between the micro and macro impact of decisions no longer follows. The spatial allocation of resources emerging from TNCs' strategies may no longer conform to the optimum allocation of resources as emerging from the endowment of resources of the different countries and/or from the increasing returns models. The clash between micro and macro optimisation may be an obstacle to deriving general equilibrium conclusions from situations in which TNCs' strategies are – realistically – allowed to play a significant role in industrial location.

8.6 Implications

I am, on the whole, inclined towards the idea that the manipulation of transfer prices is not a major objective in shaping the strategies of TNCs and they may not weigh heavily in the pattern of industrial location at the international level.[14] However, I feel that the strategies towards labour and governments and towards risk spreading do play a significant role, as argued in chapter six.

If we accept the 'regulatory regimes' approach to nations and to TNCs as organisations able to plan, organise, control business activities across nation-states and thus able to take advantage of the different regimes, various implications follow as highlighted in chapter six.

First, operating internationally via FDI and direct production can generate benefits for the companies over and above those related to the sourcing of large markets, or factor endowment or the structure of inputs and costs. These benefits are linked to the ability of companies to take advantage of a variety of features of different regulatory regimes which range from: ability to jump trade barriers (as highlighted in some of the theories considered above); ability to profit from different tax, currencies and labour regimes; ability to spread risks. There is, therefore, a much wider scope for advantages than envisaged by the new trade and location theories.

Second, the advantages of operating across nation-states cannot be assimilated to a special aspect of multi-plant, inter-regional economics. They are specific to the ability to operate *across* different regulatory regimes and they may increase with the number of countries – thus regulatory regimes – across which the company operates. For example, it is likely that the advantages related to labour regimes are linked to the number of foreign countries in which the company operates, with higher advantages for companies operating in more nation-states. The larger the number of countries in which firms operate, the more fragmented is the labour force they have to confront. The company with a large network spread of production activities is in a stronger position to play one site against the other and therefore has strong bargaining power vis-à-vis its workforce as well as towards the national and regional governments of host countries. There may, of course, also be additional costs of operating in many countries. All these points have been developed in chapter six.

In the examples considered so far, the TNC, by operating and optimising across different nation-states, is at an advantage compared to either governments or labour. However, these advantages towards governments and labour result also in advantages towards rivals – be those other TNCs or UNCs – because they are likely to give that specific company competitive advantages with respect to its rivals. Any advantages towards rivals, by leading to higher market shares may start a cumulative process not dissimilar to the process stemming from economies of scale at the firm level. Thus advantages of multinationality by spreading from advantages towards labour to those towards governments and rivals, may set in train a cumulative process of advantages for the firm which, in turn, affect the pattern of location in various countries.

The advantages of operating across different regulatory regimes and the ability to exploit the differences across nation-states may affect the pattern of industrial location at the macro level. For example a strategy of fragmentation of the workforce employed may lead to a higher multi-nations spread of activities than warranted by the strictly optimising, multi-plant model. If this is the case for many large MNCs, then this feature will also affect the location structure of economic activity as well as its agglomeration pattern.

This conclusion is consistent with the fact that the real world seems to exhibit a lower degree of agglomeration than the one predicted by the new trade theories. Krugman (1998) is fairly explicit on this point. He writes: '. . . preliminary efforts . . . have found that such models are not at all easy to calibrate to actual data; in general, the tendency toward agglomeration is stronger in the models than in the real economy!' (p. 15). Moreover, the conclusion also helps to explain the world pattern of international production as highlighted in chapter six. In particular it is consistent with the high and growing geographical (by nation-states) spread of TNCs' activities which we found in the empirical analysis of chapters four and five. In

fact, Table 5.1 shows that the largest UK TNCs in manufacturing and mining were operating in fifteen countries in 1963 and in forty countries in 1997.

Given the location of markets, the availability of labour skills and technologies and the scope for linkages, companies might find it most profitable to locate in developed countries. They can do so either by producing all or most of their output in one or two countries and then sourcing the other markets via exports, or by producing near each market and thus fragmenting production into many developed countries. In both Markusen's model (1995) and the one I, informally, presented in chapter six and touched on in this one, companies appear to follow a pattern of production fragmentation. However, in the former (Markusen's) the choice of host location(s) depends on economic distance (transportation and other spatial costs), barriers to trade and size of markets. Given the tendency for both barriers to trade and transportation costs to decline, it is not easy to explain the increase in FDI in all developed countries[15] and the large spread of activities by TNCs. However, if we accept that TNCs' strategies are likely to lead to a higher level of fragmentation and dispersion of production than the one envisaged by the new location theories, then the world pattern of international production may become easier to explain.

How can the approach sketched here be used positively to advance our understanding of industrial location in the era of transnational companies? A realistic theory of industrial location must take account of increasing returns whatever their origin, and thus analyse the agglomeration or centrifugal forces. However, it must also take account of strategic behaviour of TNCs, which play a relevant role in the location of activities, be they strategies towards rivals, labour or governments. An efficiency-only approach (as in the TNC-enlarged new trade theories and in the internalisation theory with which there are strong analogies) does not give us the whole story.

Models of the TNCs, their behaviour and their operations, will have to juxtapose the situation of companies operating within the nation (within the same regulatory regime) and those between nations (between different regulatory regimes). The second situation should not be treated as an extension of the first one; even though increasing returns should play a role in both cases.

Over and above any assumption related to factor endowment of countries, or joint inputs or increasing returns, the cross-border operations would have the following characteristics: (a) benefits (as well as some costs) of multinationality i.e. of operating across different regulatory regimes. These will be specific to inter- (multi)-national operations and not to inter-regional operations and indeed they demarcate the specific features of the two. Moreover, the benefits may vary positively with the number of countries in which the TNC operates. (b) Possibly higher transaction costs than in inter-regional operations for various reasons including institutional and

cultural differences. Some learning elements will have to be incorporated here if we want a realistic model. The international transaction costs may decline historically i.e. with the length of time the company has been operating in the host country(ies). It is possible to learn about a market/location not only via direct production but also through other entry modes such as exports or joint ventures. Learning to operate in one or two countries may also enhance the ability to operate in additional locations; however, beyond a certain number of countries there may be a steep rise in managerial and organisational costs.

One last point that should be noted is the following. In this chapter I have assumed throughout that regulatory regimes are different across nations but uniform across regions, within the single nation-state. This is, of course, a simplification as pointed out in chapter six. In some countries the regions have considerable regulatory power whether by law or customs. In particular, many regions are free to offer tax advantages or grants to companies locating within their boundaries. This is the case in the various states of the US and also in regions of the UK.

8.7 Summary and conclusions

The chapter starts with a summary of the new theories of international trade and industrial location as applied to the explanation of multinational companies and their activities. The multinational activities are introduced within these new theories as part and parcel of the explanation of multi-plant activities deriving from the existence of joint inputs at the level of the company. This approach does not discriminate between multi-plant activities in which the pattern of location is inter-regional and those activities whose pattern of location is international. It is argued that such a distinction is necessary if we want to explain the essence of TNCs' activities and the TNCs' relationship with other players in the economic system.

In the new trade theories, nation-states are defined by the restrictions they put on business activities and thus by the extra costs they impose on international operations or by different factor endowment. In the approach presented here (and following the arguments of chapter six) nation-states are defined in terms of the regulatory regimes they encompass.

The ability to plan and organise activities across different regulatory regimes gives the TNCs special advantages, which are specific to cross- and multi-countries operations. These are strategic advantages towards all those players in the economic system who cannot operate – or not to the same extent – across regulatory regimes for whatever reason. Such players are governments, labour, uninational companies or consumers. In this approach, distributional as well as efficiency considerations play a role in the strategies of TNCs.

The advantages of operating across different regulatory regimes may affect the pattern of location as well as the concentration of activity, which would

emerge from increasing returns. It is argued that transnationals' strategic behaviour must be placed at the forefront of analysis of location theories, as much as increasing returns. The forces leading to multinationality cannot – or not fully – be assimilated into centripetal and centrifugal forces and core–periphery pattern because they favour the *spread* across different regulatory regimes and thus different nation-states.

A more realistic modelling of TNCs' activities within the new trade and location paradigm should contrast the costs and benefits of operating inter-regionally versus internationally and not just those of operating within a single or multi-plant framework. In other words, the transnationality of operations (i.e. operations across different regulatory regimes) with its strategic elements, advantages and disadvantages should be at the forefront of analysis and not come out as a by-product of spatial analysis. There are some spatial issues in multinational production, but there are also some very relevant non-spatial ones, which fall within the institutional, political and distributional spheres.

Part IV

The TNCs between integration and fragmentation

Implications

> Naturally I am interested not only in the diagnosis, but also in the cure . . .
>
> John Maynard Keynes (1937: 121)

9 TNCs as a dominant cause of the globalisation process

9.1 Introduction

Chapter one introduced the globalisation process and its characteristics. It also touched on the role that the information and communication technologies and the transnational companies play in it. The latter's role in international transactions and therefore in some of the main aspects of international integration and globalisation, were dealt with at greater length in chapter two.

I am now going to reconsider the globalisation process from a more theoretical perspective and in relation to two specific interrelated issues. First, I will present and analyse alternative theoretical perspectives and the related theses that have been put forward in the literature to explain the nature of globalisation and its policy implications. Second, the chapter will put forward a causal theory of globalisation which sees the information and communication technologies and the transnational companies as the dominant causes of the globalisation process. In dealing with the latter issue reference will be made to the analysis developed in chapter six and to the empirical evidence of chapters two, four and five. Moreover, the causal analysis is relevant for the policy implications discussed in the next chapter.

The next section considers some attempts at defining globalisation. It is followed by two sections which present different theses on the process. Section 9.5 analyses the theses. Sections 9.6 and 9.7 develop the causality theory that links globalisation with the ICTs and TNCs. Section 9.8 concludes.

9.2 Defining globalisation

Globalisation is a complex phenomenon which covers much more than the strictly economic sphere. 'Globalization is political, technological and cultural, as well as, economic' (Giddens, 1999: 2). The term is indeed used in a variety of connotations and approaches as noted in Milberg (1998). He writes, specifically, that the term often '. . . refers to the emergence of a new international division of labour alongside greater geographical

dispersion of activity'; or it describes '. . . the spread of capitalism worldwide . . .'; or it is '. . . used as a synonym for liberalization and greater openness' (p. 69). Rejecting the extreme version which might identify globalisation with a 'supranational paradigm', the author describes the current situation as '. . . one which is dominated by transnational firms and financial institutions, operating independently of national boundaries or domestic economic considerations' (p. 70).

Given these connotations and broad scope, definitions of globalisation can be rather restrictive and difficult. Nevertheless, some authors have attempted to define it and I shall present here some of the main positions. McGrew (1992: 23) writes:

> Globalization refers to the multiplicity of linkages and interconnections between the states and societes that make up the present world system. It describes the process by which events, decisions, and activities in one part of the world come to have significant consequences for individuals and communities in quite distant parts of the globe. Globalization has two distinct phenomena: scope (or stretching) and intensity (or deepening). On the one hand, it defines a set of processes which embrace most of the globe or which operate worldwide; the concept therefore has a spatial connotation . . . it also implies an intensification of the levels of interaction, interconnectedness or *interdependence* between the states and societies which constitute the world community. Accordingly, alongside the stretching goes a deepening of global processes.

Oman (1996) defines 'globalisation' as

> the growth, or more precisely the accelerated growth, of economic activity across national and regional political boundaries. It finds expression in the increased movement of tangible and intangible goods and services, including ownership rights, via trade and investment, and often people, via migration. It can and often is facilitated by a lowering of government impediments to that movement, and/or by technological progress, notably in transportation and communications. The action of individual economic actors, firms, banks, people, drive it, usually in the pursuit of profit, often spurred by the pressures of competition. Globalisation is thus a *centrifugal* process, a process of economic outreach, and a microeconomic phenomenon. (p. 5)

Castells (1996: 92) sees a global economy as '**an economy with the capacity to work as a unit in real time on a planetary scale**'.[1] Held *et al*. (1999: 16) write that:

> globalization can be thought of as . . . *a process (or set of processes) which embodies a transformation in the spatial organisation of social relations and*

> *transactions – assessed in terms of their extensity, intensity, velocity and impact – generating transcontinental or interregional flows, and networks of activity, interaction, and the exercise of power.*[2]

McGrew like Milberg stresses interdependence between variables. The definition by Held *et al.* emphasises the process aspect of which changes in transactions are the outcome. Moreover, the latter work emphasises the social and cultural, as well as the economic dimension of globalisation. Ohmae (1991, 1995b) concentrates on the economics of globalisation and specifically on growth in the flow of economic transactions.

Some authors writing on globalisation (Hirst and Thompson, 1996; Milberg, 1998) put a strong emphasis on macro aspects: on countries more than on communities and individuals. Castells, in line with the emphasis on the IT revolution in his books, stresses the velocity of transactions. All the definitions given above refer explicitly or implicitly to the spatial reach of the transactions (to what McGrew calls 'stretching' and Held *et al.* the 'extensity' of transactions). All authors identify, directly or indirectly globalisation with processes of spatial and cross-country integration.

9.3 Globalisation theses: hyperglobalists and sceptics

Is globalisation a new phenomenon? How do we assess its impact on society? What is the relationship between globalisation and the nation-state? What is the role of national governments in the era of globalising or globalised economies and societies? What is the role and scope of governance in general in such societies and economies?

The implicit or explicit attempt to tackle some of these questions has led to a lively debate on the analysis of globalisation and its outcomes and effects. The main approaches have been presented in Held *et al.* (1999: introduction) as 'theses'. The debate raises also important questions about driving forces and causes and whether we can indeed talk of causes in relation to such a complex process. The issue of causality is tackled later in this chapter.

Held *et al.* (1999) consider three main theses on the globalisation debate.[3] At one end of the spectrum they put the proponents of what they call the 'Hyperglobalist Thesis' of which the main exponent is Kenichi Ohmae (1991, 1995a, b). Ohmae sees the brave new world at the end of the second millennium dominated by large successful multinational companies. They are seen as a source of efficiency and progress which can deliver wealth and well being throughout the world – or at least the developed part of it – provided they are not hampered by the regulations and border constraints of nation-states. Ohmae sees the traditional nation-states with their uneven regional development and their over-regulations as an impediment to globalisation: the era of the *Nation-state* is over and it must give way to the *Region-state*.

I have considered the *region*- versus *nation*-state element in Ohmae in chapter six. Here the following elements of this analysis must be emphasised. Globalisation is an unstoppable force for progress and efficiency. There are no specific and identifiable actors or causes behind it. It is market-driven and indeed the logic of the market must be allowed to prevail by pushing forward with deregulation and liberalisation. The constraints still posed by nation-states must come down.

Indeed, the nation-state itself is an anachronism in a globalised world and it must be superseded by the advent of region-states. 'Nation-states are no longer meaningful units in which to think about economic activity' (1995a: 120).

> In a borderless economy, the units that do make sense are what I call region-states that is geographical units such as Northern Italy; Wales; Baden-Württemberg in Germany; San Diego, California and Tijuana, Mexico; Hong Kong and Southern China; the Growth Triangle of Singapore and its neighbouring Indonesian islands; or Osaka and its outlying areas, which are together known as Kansai. Those are the natural economic zones. They may, or may not, fall within the boundaries of a particular nation. If they do, it is an accident of history. In practical terms, it does not really matter. What does matter is that each possesses the key ingredients for successful participation in the global economy – not the least of which is the ability and the determination to put global logic first (pp. 120–2).

Such a death warrant for the nation-state was bound to generate support for its survival. One group has indeed been led to deny (or play down considerably) the very existence of globalisation in order to maintain that news of the death of the nation-state is grossly premature. Indeed, the nation-states and their governments are alive and kicking and there are calls for them to kick harder and more effectively.

Held *et al.* (1999) as well as Giddens (1999) name this the 'Sceptic Thesis'.[4] It is represented by, among others, Carnoy *et al.* (1993) in the US and by Hirst and Thompson (1996) on the other side of the Atlantic.

Carnoy *et al.* (1993: ch. 3) examine the growth and development of MNEs since the 1970s. They find that, in spite of considerable qualitative and quantitative changes in their activities, MNEs are still very much embedded in the home country. The majority of their activities and profits – except for a few MNEs – are based in the home country and so is their R&D activity. Therefore, the contemporary MNEs are strongly dependent on the home-country's infrastructure, business culture and government policies. There is a very strong interaction between home nation-state and MNEs. The performance of the nation-state economy is affected by the success of its MNEs; conversely, the MNEs' success worldwide depends on the success

and support they have in their home base. The nationality of the MNE is important in terms of the support it gets from the home government policies and in terms of the business and wider organisational culture in which it is embedded. Japanese MNEs behave differently from American or French ones; the country of origin does matter.

In this perspective national policies in the globalisation era become more not less relevant. National policies affect the level of competitiveness of the economy, as well as the physical and human-capital infrastructure. This, in turn, affects the performance and competitiveness of MNEs.

Hirst and Thompson (1996) question the whole notion of globalisation on the following basis. (a) It is not a new phenomenon. Large international flows of trade, portfolio and direct investment, as well as migration flows are nothing new. The beginning of this century saw a similar, if not higher, intensity of transactions across borders. (b) Multinational companies are not borderless institutions. They are well embedded in their own home nation-state in terms of their share of overall activities. (c) Most international flows are confined within well-defined regions rather than spread across the globe. (d) Capital mobility is largely confined to the developed countries and does not produce massive shifts from developed to developing countries. International transactions tend to be regional. Similar arguments are used by Kozul-Wright and Rowthorn (1998a) to support the view that '. . . there has been a tendency to exaggerate the extent of truly global production relocations' (p. 78).

Thus, if globalisation is a hyped myth, it follows that the nation-state is still the key unit of governance within its own borders and also in terms of establishing appropriate international institutions and securing appropriate and consistent cross-country governance. The sceptics' defence of the nation-state is based on the denial or playing down of globalisation.

It is interesting to note at this point that the 'hyperglobalist thesis', it seems, developed in a historical vacuum. Globalisation is a new phenomenon of the last fifteen to twenty years and there is no point in looking back to the heyday of the nation-states. It needs new political, economic, social units. The sceptics invoke history in aid of their thesis: a history that is taken back some one hundred years in the case of Hirst and Thompson and some thirty years in the case of Carnoy.

9.4 Globalisation theses: transformations

History plays a very strong role in the analysis by Held *et al.* (1999) and in their 'Global Transformations' thesis. Their project is to analyse globalisation in its historical setting and antecedents and for the key domains of social activity. The historical epochs chosen for their analysis are: Pre-modern (up to 1500); Early Modern (1500 to 1850); Modern (1850 to 1945); and Contemporary (1945 to present). The key domains – among which they

see growing global interconnectedness – are economics, politics, migration, and the environment, the military and culture. Each domain is characterised by specific technological and institutional infrastructures. Particular prominence is given, for example, to the historical evolution of political institutions and infrastructures.

The following dimensions are used to assess globalisation; *extensity*, that is the spatial/geographical reach; *intensity*, that is the number and quantity of flows; *velocity*, that is the speed of movement of flows across space; and *impact*, that is the overall effects on society and the economy.

The approach by Held *et al.* sees globalisation as a process of global transformations. It is interesting to note the plural in the title (*Global Transformations*) of their book and in their treatment of globalisation. Though they leave it unspecified, the plural can be interpreted as referring to transformations throughout history and/or transformations in key domains of social and economic activity and/or to both. The latter interpretation may be the closest to their intentions.

From a historical perspective one might be led to conclude that the present globalisation process is nothing new – just another transformation towards outreach in the history of humanity.[5] Yet they conclude that the present transformation is unprecedented. They write in their final chapter: 'What is especially notable about contemporary globalization, however, is the confluence of globalizing tendencies within all key domains of social interaction. Thus, it is the particular conjuncture of developments – within the political, military, economic, migratory, cultural and ecological domains – and the complex interaction among these which reproduce the distinctive form and dynamics of contemporary globalization' (p. 437). Moreover, the assessment of contemporary globalisation shows signs of 'thickness' that is of high extensity, intensity, velocity and impact compared with globalisation in previous epochs.

They reject the hyperglobalist view of the demise and redundancy of the nation-state. They write on this point: 'The distinctive attributes of contemporary globalization, . . . by no means simply prefigure the demise of the nation-state or even the erosion of state power. Indeed, in all the domains surveyed, it is evident that in key respects many states . . . have become more active, although the form and modalities of this activism differ from those of previous eras' (p. 436).

They see the development of new forces (spatial and social) in the domains of politics and power and the need for a rethinking of democracy in a world of overlapping communities. '. . . a democratic political community for the new millennium necessarily describes a world where citizens enjoy multiple citizenships. Faced with overlapping communities of fate they need to be not only citizens of their own communities, but also of the wider regions in which they live, and of the wider global order. Institutions will certainly need to develop in order to reflect the multiple issues, questions and

problems that link people together regardless of the particular nation-states in which they were born or brought up' (p. 449).

A different perspective and transformation thesis is put forward by Chesnais (1997),[6] who writes (ch. 2: 48): 'At the end of the twentieth century, the analysis of globalization of capital must start with finance. The financial sphere is the one in which the internationalization of markets is most advanced; the one in which the operations of capital have reached the highest degree of mobility'.[7] Chesnais and Simonetti (2000) also write with reference to globalisation. '. . . the term is also being increasingly used to refer to the fabric and mode of operation of contemporary capitalism at a world level. Globalization builds on channels and mechanisms, which originated in earlier phases of internationalization. But it incorporates them into a qualitatively new mode of working of the international economy marked *inter alia* by the continually increasing empowerment of finance' (p. 11).

Chesnais sees the current phase of capitalist development as a new regime in which finance capital dominates everything else ('Un régime d'accumulation mondialisé à dominante financiére', ch. 12: 287). In his view, since the 1980s, capitalism has undergone systematic changes: the specific forms of capital globalisation unleashed by the liberalisation and deregulation policies have led to the emergence of a world regime of accumulation dominated by finance.

Does this mean that there is a conflict or separation of roles and aims of industrial and finance capital? The author's answer is definitely negative because he sees industrial and financial groups as closely interlinked and enmeshed in their working towards more profitable accumulation worldwide. The extremes of this new financial regime of accumulation are to be seen in the US–UK model of capitalism, which he sees as 'bad' capitalism ('mauvais capitalisme') gradually swelling and crushing other non-finance-based capitalist models. The poignant analogy here is with 'bad' money driving out good money in a novel application of Gresham law (p. 288).

For Chesnais the advent and spread of this new regime of capitalist accumulation has been aided not only by the technological developments but, very significantly, by the deliberate policies of governments, particularly the Reagan and Thatcher administrations, as well as the convergence conditions set by the EU policy makers. Chesnais gives detailed empirical support (in his chapter two) to his thesis with data on the accelerated growth of financial transactions. Some data relevant to his thesis is reported in chapter two, section 2.4 above.

9.5 The theses analysed

The globalisation theses presented in the previous sections are not a matter of pure taxonomy. Each thesis corresponds to a specific analysis of the

processes, extent, impact, possible future developments of the globalisation process and the subsequent role of the state (and governance in general) within it. It also corresponds to different ways of looking at the degree of integration between countries and to the interconnectedness between individuals, groups, communities, peoples and nation-states.

There are many points in common between all or some of the theses presented. There are also many differences. Here I shall briefly consider the main commonalities and differences in an attempt to see where we are in the globalisation debate.

The role of the nation-state and its government is a preoccupation in all the approaches. From Ohmae's call for the demise of the nation-state and for further deregulation, to Chesnais' criticism of governments whose policies have fostered the finance regime of globalisation. The sceptics see a 'carry on' role for the nation-state and its governance while Held *et al.* see the emergence of new scope and perspective in politics and democracy as the nation-state increasingly co-exists with outreaching and overlapping communities. Castells (1996) sees the need and scope for more state intervention in the new network, global economy. He writes: '. . . *it is precisely because of the interdependence and openness of international economy that states must become engaged in fostering development strategies on behalf of their economic constituencies*' (p. 90).[8]

Technology is present in all these works although it is, usually, brought in indirectly. The only work in which the IT revolution plays a (indeed 'the') key role in shaping society, the economy and globalisation is Castells (1996).

What about actors and institutions? The TNCs and their activities feature – as expected – in all approaches and most strongly in Chesnais where they are the main actors in globalisation. Held *et al.* see the MNCs and their activities as one of the many elements in the contemporary transformation. Their activities are part of the intensity of such transformations. Therefore, they are not given a key, pivotal role which seems to be assigned more to political institutions.

Some works confine themselves to the economic domain. However, Held *et al.*'s and Castells' works analyse several domains including culture and politics. In fact, politics, political institutions and their transformation, play a very crucial role in Held *et al.*'s multidisciplinary analysis.

Looking at globalisation from a historical perspective some theses emphasise continuity, others discontinuity. The sceptics see relatively little change taking place compared to the decades around the turn of last century. For this reason I would therefore like to refer to their thesis as the 'continuity' thesis because it stresses continuation rather than a break with the past. Ohmae sees a sharp irreversible break with the past. The works of Held *et al.* and Chesnais could be considered as 'discontinuity theses': globalisation is seen as a fundamental transformation in the economic and social system.

While the hyperglobalists appear to see a state of world equilibrium emerging, provided the nation-state is appropriately fragmented into region-states, the transformationalists see globalisation as a process and thus the system in a changing, dynamic flux.

What about the 'spatial reach' or the 'extensity' to use Held *et al.*'s terminology? They all seem to agree that the spatial reach of the actors operating in the new globalised economy is not necessarily, or not always, a planetary reach in which all or most countries of the world are reached in a space- and nation-neutral network. Regionalisation is a reality and is part of globalisation. However, the 'sceptics' or the exponents of the 'continuity' thesis (as I prefer to call them) consider the large intensity of regional flows as evidence that nation-states are relevant. It is as if the region is seen almost as an extension of the nation-state. The transformationalists see regionalisation as part and parcel of the globalisation process and trend.

9.6 Globalisation: the search for causes

As we have already seen, the globalisation process extends over many domains of social and economic activity, which undergo continuous changes. The mechanisms and impact of globalisation span wider than the world of business and production. They increasingly involve elements related to consumption, the environment, human rights, leisure, politics and culture.

Is the current character and pattern of globalisation the only possible one? Is the erosion of governments' power inevitable and/or desirable? Can we devise and implement policies to enhance the positive effects of globalisation and/or to minimise the negative ones? What governance framework and institutions are necessary to achieve this? It will help us towards beginning to tackle these issues and questions if we can identify the dominant causes or *causae causantes* of globalisation.[9] However, before we consider the root causes of globalisation let us see how causation has been dealt with in the existing literature.

None of the works considered above deals directly with causation though the topic is touched on here and there. Ohmae's approach to globalisation seems to imply that no single actor or element can be responsible. Globalisation is a process springing out of market forces and as such there is nothing that can or should be done. Milberg (1998) identifies the driving forces of globalisation as: the transnational corporations; technological change; macroeconomic conditions; liberalisation and privatisation and other policies in both developed and developing countries. Chesnais blames the financial domination of economic systems and the actors that support it.

Held *et al.* (1999) tackle the issue of causation in their concluding chapter in their search for 'principal driving forces underlying contemporary globalization' (p. 436). They write later on the same page:

> Seeking to identify the primary causes of contemporary globalization necessarily involves a recognition that in accounting for processes of social change, the language of causality cannot be the same as that of deductive scientific enquiry. In analysing the driving forces underlying processes of historical change, the emphasis is necessarily on the conjunction of tendencies and the factors which impede or fuel those tendencies. The relevant notion of cause here involves the idea of a conjunction of events. Processes and conditions which together tend to generate a particular type of outcome . . . Contemporary globalization is not reducible to a single causal process but involves a complex configuration of causal logics. These . . . embrace the expansionary tendencies of political, military, economic, migratory, cultural, and ecological systems. But each is mediated by the late twentieth-century communication and transport revolution . . .

This notion of causality is more akin to a statement about the fact that globalisation is a confluence of globalising tendencies in a variety of social, economic, political, cultural domains. These tendencies are mediated and fuelled via specific factors, that is via the technologies of transportation and communication. However, we are not told whether there are dominant or main causes and if so what they are, or whether there are unifying underlying elements that affect globalisation in all the domains. In other words we are told the domains of impact of globalisation and the fact that they reinforce each other but nothing about the *causae causantes*, the primary or dominant causes of the whole process. The authors start from the plan to present driving forces but end up by giving us domains of impact of globalisation while assigning a mediation role to the revolution in the technology of transportation and communication.

Can we identify causes and driving forces in the globalisation process? Is it indeed useful to do so and why? Let us start with tackling the latter question. We start from the premise that globalisation is indeed a process which involves many factors interacting often in a cumulative way.

A considerable amount of debate in the various theses on globalisation summarised above develops around the issue of state intervention and power of nation-states. It therefore centres around whether and how governments can and should intervene to regulate the economies and the globalisation process itself. The range of views on the extent of government intervention as we saw above is varied. Moreover, there is a difference between the various authors as to the range of policies they consider. Ohmae and Chesnais want policies directly aimed at the globalisation process. Policies to enhance the process in the case of Ohmae, and policies to curtail it in the case of Chesnais. In the cases of Hirst and Thompson, Held *et al.*, as well as Chesnais, it is a whole range of policies that they refer to – implicitly or explicitly – from macro policies to industrial policies.

If the global process impacts on the effectiveness of such policies (including the direction of the effects), how can we design and tailor the policies to

achieve the desired aims? This is very difficult if we have no knowledge of what causes the global process, its scale and directions. The dismissal of the globalisation process as hyped waffle on the part of many economists, stems, partly, from the lack of analysis of its root causes.[10] However, this leaves the field open for the Ohmae type of approach in which the liberal political agenda prevails in the approach to globalisation.

Moreover, like many economic and social phenomena the globalisation process has an uneven impact on individuals, communities, classes, regions, nation-states. Some benefit, some lose out, in patterns which may become cumulative through time. An understanding of the root causes will also help us to understand its uneven impact and take action to affect events in the desired directions.

9.7 The *causae causantes* of globalisation

Let us now get back to the first question formulated above. Can we identify the causes of globalisation? Given the complexity of the process and the large number of domains over which the process manifests itself, the task would appear to be almost impossible at first.

However, I believe that the task can be accomplished if we start from two basic points. First, the realisation that globalisation is not just another phase in geographical outreach. It is much more, it is a new phase of capitalist development characterised by a tremendous increase in the development of productive forces.

Such development derives from innovation in two connected directions: (a) technological innovation particularly – but not exclusively – in the field of information and communication technologies; and (b) organisational innovation which has allowed one specific actor in the system – the TNC – to take full advantage of the ICTs and to develop new and more extensive patterns of linkages as well as new products and processes. These two types of innovation are closely linked.

Both types of innovation combine to make it possible to extend the geographical range of operations particularly in the domain of economics and business. Together they have led to the growth of TNCs' activities in all their aspects: from FDI to trade to inter-firm partnerships to increased movement of expatriates (chapter two), to the increase in the geographical spread of direct activities (chapters four and five).

However, the spatial reach is not the only dimension affected by innovation. The combination of technological and organisational innovation has led to flexible production systems with wide-ranging effects in the following areas: introduction of new products and processes; development of new skills; changes in the relationship between producers and their suppliers or distributors, as well as between producers and consumers. Some of these changes have a spatial dimension, some have not. None of these elements is new, including the spatial reach (as highlighted by Held *et al.*, 1999).

The potential for organisational innovation deriving from the ICTs has, so far, been exploited mainly by the TNCs. However, other actors are gradually moving in that direction (environmentalists, consumer groups, labour, smaller firms). We are at the beginning of an organisational as well as technological revolution which is bound to bring tremendous economic and social changes.

As yet, the organisational changes have been initiated and implemented mainly by the TNCs for profit objectives. Some of these changes benefit society as a whole, some do not. For example the ability to adapt products developed in the global environment to local conditions may be an organisational benefit to the local community. The technological and organisational ability to manage firms which are very fragmented – by ownership, organisation or location – does not mean that fragmentation is always in the best interest of society as a whole. The case of the British railways industry following privatisation shows the high social costs and risks of organisational fragmentation.

Not all organisational changes contribute to the development of society's productive forces. Nonetheless many do and the potential for further developments in this direction – particularly if the changes are appropriately channelled – is very considerable. The overall result of the combination of technological and organisational innovation is a qualitative new system, a new phase in capitalist development of which we are witnessing the beginning. Thus the actual and potential quantum leap in the productive forces is leading to a qualitative change.

Second, it is useful to distinguish between the driving forces of the globalisation process and its dominant causes. I consider the driving forces to be all those elements that contribute to the process and help it to take the current shape and patterns. In particular, the following ones: the activities of TNCs and of financial institutions; the diffusion of information and communication technologies; the macro policies of many governments; the widespread liberalisation and privatisation programmes; the policies of international institutions such as the IMF. Some of these forces are largely unstoppable and irreversible. Others could be changed by political will.

A subset of the above driving forces, I consider to be *causae causantes,* dominant causes: those at the root of the globalisation process. The notion of *causa causans* used here is derived from Keynes (1937: 121) who writes:

> The theory can be summed up by saying that, given the psychology of the public, the level of output and employment as a whole depends on the amount of investment. I put it in this way, not because this is the only factor on which aggregate output depends, but because it is usual in a complex system to regard as the *causa causans* that factor which is most prone to sudden and wide fluctuation. More comprehensively, aggregate output depends on the propensity to hoard, on the

> policy of the monetary authority as it affects the quantity of money, on the state of confidence concerning the prospective yield of capital assets, on the propensity to spend and on the social factors which influence the level of the money wage. But of these several factors it is those which determine the rate of investment which are most unreliable, since it is they which are influenced by our views of the future about which we know so little.

He resorts to the concept of *causa causans* in order to find the basic, dominant cause in a complex system in which several factors are at work. There are, therefore analogies with the complexity of the globalisation process. There are also many differences and they are further expanded in Gillies and Ietto-Gillies (2001). Here suffice to say that in identifying the dominant causes, a litmus test will be used consisting of the following two conditions: (1) the dominant causes are a subset of driving forces and in particular those that contribute to the development of the productive forces at the basis of the globalisation process. Those specific driving forces which are dominant causes are also essential to the globalisation process; without them the process would be inconceivable. (2) The development of the productive forces is a largely irreversible process. However, irreversibility in the development of the productive forces does not mean uncontrollability of its pattern.

On the basis of these conditions which form the litmus test, the dominant causes or *causae causantes* of globalisation are in the following areas of innovation both of which contribute to the development of the productive forces.

- Technological innovation. The revolution in the technology of information and communication coupled with the considerable advances in the technology of transportation.
- Organisational innovation. Specifically but not exclusively, the cross-border organisation of activities and, in particular, the TNCs' power to organise business activities across countries and their comparative position vis-à-vis other actors as participants in the globalisation process.

These two elements must be seen in their interrelationship as already mentioned. Organisational innovation would not have been possible without technological innovation. Conversely, the diffusion of the latter has been encouraged by the needs of TNCs and their activities.

It is tempting to look at the relevance and growth of quantitative flows and to identify the dominant causes of globalisation with the largest or fastest growing ones. Looking at the purely quantitative flows there is no doubt that the largest increases in flows are to be found in the sphere of international finance, as we saw in chapter two. This is indeed the one in which '. . . the operations of capital have reached the highest degree of mobility'

(Chesnais, 1997: 48). So it would seem tempting to declare the current phase of globalisation as being finance-dominated.

I have three objections to this approach. First, it does not consider the contribution of the various driving forces to the development of the productive forces. Second, it fails to distinguish between trends which are largely irreversible and those which could be halted or further enhanced by political will and the intervention of governments. Third, it does not lay enough stress on the actors which participate in the process, their relative position within it and their active or passive participation in it.

The financial explosion across countries was largely fuelled by macro policies, by liberalisation and privatisation policies, by deregulation in the cross-countries acquisition of assets. It could be reversed by reversing those policies. Of course, while those policies are implemented the finance sector does exercise a very considerable impact on the globalisation process: it affects geographical patterns of activity and development; it increases divergence between countries and communities or classes within countries; it changes the economic structure of countries and the social fabric of its communities. However, this process is largely reversible if the political will is there.

For these reasons I will resist the temptation to consider international finance as the dominant cause of the current phase of globalisation and instead consider the dominant causes of the globalisation process to be the ICTs and the TNCs. The ICTs have a dominant role in the globalisation phase of capitalist development because of the contribution they make to the development of the productive forces. None of the quantitative or qualitative elements could have changed to such a large extent without the adoption and diffusion of ICTs. Moreover, this element is irreversible. We could not possibly conceive of going back to the pre-ICTs era except as a result of major earth-shaking catastrophes.

The defining characteristic of TNCs is their ability to plan, organise, control business activities across countries. It is a characteristic that is specific mainly to them compared to the other major players in the economic and social system such as labour, consumers, uninational companies and governments.

The key role played by TNCs as *causa causans* of globalisation manifests itself in a variety of ways and in particular: (1) The TNCs contribute to a very large extent to most international flows as we saw in chapter two. They have a comparative position of power vis-à-vis other actors who do not possess – so far – the same ability to plan, organise, control across borders as argued in chapter six. These other actors are the workers, governments, uninational companies and consumers. The role of transnationals and their comparative position of power gives globalisation a specific character. It also points the way towards policies as will be argued in the next, concluding chapter to this book. (2) Given their size, economic power and technological basis, they are in the best position to use the ICTs and indeed to affect its further

development and rate of diffusion. (3) They are the institutions that, so far, take full advantage of the ICTs in the organisational sphere. In particular, they successfully operate across nation-states. They own assets across borders and they can plan, organise and control production activities across countries. They are not just part of the institutional infrastructure; they are the key to the whole process. They participate in the process actively rather than passively unlike most other actors. In this role they shape the pattern of globalisation rather than bear its consequences. (4) The evidence from chapters four and five shows that their internal networks of operations are, geographically, very extensive and are growing.

9.8 Conclusions

Following the presentation of some definitions of globalisation, the chapter analyses various theses on globalisation and in particular: hyperglobalism, scepticism and transformationalism. Among the latter I have also discussed the financial dominance thesis of Chesnais (1997).

The chapter then goes on to present a theory of causation of the globalisation process which follows Keynes's (1937) notion of *causa causans*. The approach considers globalisation to be a phase in capitalist development characterised by a considerable development of the productive forces. It distinguishes between driving forces of globalisation and dominant causes. The root, dominant causes are identified as those driving forces that contribute to the development of the productive forces and that are, largely, irreversible: the information and communication technologies and the transnational companies.

10 Fragmentation in the midst of integration

Theoretical and policy implications

10.1 Introduction

A process of outreach across geographical space and national frontiers is nothing new in the history of mankind. Yet the current globalisation process is unprecedented in its spatial reach, in the velocity of interaction between people and institutions across space, in the scale of transactions, in the number of social and economic domains involved in the process, and in the number of people affected by it. It is also unprecedented in the fact that the globalisation process is accompanied by a process of fragmentation.

It has been argued in chapter nine that the current globalisation process is indeed a new phase of capitalist development of which the dominant causes are the TNCs and their activities and the development and diffusion of information and communication technologies (ICTs). They both contribute – separately and interactively – to the development of the productive forces in its quantitative and qualitative aspects. The evidence in chapter two shows a large and increasing role for the TNCs in most or all flows of resources, products and incomes across countries.

Parallel to this integrative role, the TNCs play a fragmentation role in relation to the organisation of production as well as in terms of the scope for divisions of other actors. The latter stems from their strategies towards other players in the economic system and in particular their strategies towards labour and governments. The fragmentation process has both an organisational and a locational (multi-country) dimension. This role was discussed in chapter six, while part II gave evidence that points to both an integration and a fragmentation role. TNCs are able to fragment other actors because of their high integrative power. Because they can operate effectively across frontiers better than other economic actors, they can use transnational strategies to divide labour and/or governments. Similarly, because they can operate internal and external networks effectively (chapter three), they can use their co-ordinating power to divide other actors.

These two co-existing aspects of TNCs' activities – integration and fragmentation – have a variety of implications for all the players in the economic system as well as for economic theory and for policy.

Among the general implications for the economy and society that derive from the above twin aspects of TNCs' activities, are the following. First, at the macro level, there is a tendency to fragmentation and disintegration in the midst of growing international integration. There is disintegration of the production process which is increasingly organised across nation-states. There is organisational, locational and ownership disintegration at the level of firms and industries. This disintegration goes hand in hand with an increase in networking and linkages activity at the industry level as argued in chapter three. Once again, networking and integration run in parallel with disintegration; indeed the two elements co-exist as part of the same processes. There are also signs of disintegration of traditional boundaries of nation-states (chapter six in this book and Held *et al.* 1999) while integration – both de facto and *de jure* – within regional blocs progresses in many parts of the world.

Second, the growing amount of FDI means that foreign companies are increasingly acquiring ownership rights in other countries.[1] There is a tendency towards concentration of ownership of assets and control of related production activities in countries which are home to the TNCs; these tend to be the developed countries. This means that the geographical and cultural centres of decision-making do not necessarily coincide with the *loci* affected by those decisions (Chesnais, 1997).

Third, the wide variety of activities and entry modes into markets and production locations (from exports to greenfield FDI, to mergers and acquisitions, to inter-firm collaborative agreements) all contribute to the enhancement of TNCs' power, including their market power.

Fourth, the activities of TNCs shape localities and location advantages; they therefore greatly affect other actors' lives as well as their role in the economic system. They affect the distribution of production across the world, the specialisation of countries in specific products and industries and their economic interaction with other countries.

Fifth, there is uneven participation in the globalisation process by different countries and by social groups and classes within countries of both the developed and developing worlds. The technologically and organisationally networking society gives tremendous linkage potential to individuals, groups, communities, businesses, and private and public institutions. Yet, it is becoming more and more evident that networking power as well as the participation in the positive effects of globalisation, varies considerably across countries and regions, individuals, communities, businesses, institutions and social classes. Many such groups are passive participants who bear the negative effects without the opportunities to enjoy the positive ones or to take part in shaping the direction of globalisation. Others enjoy active participation in the process as well as the positive effects of globalisation.

The TNCs participate in the globalisation process in different ways from other economic actors. They are mainly active participants and their participation is diversified and cumulative because they are involved in a variety of business activities all contributing to the process. They play an increasing

part in economic activities worldwide. Their decisions affect economies and societies globally. The power to take key decisions tends to be concentrated in the largest companies in developed countries; however, such decisions affect the world as a whole.

This concluding chapter explores the wider implications for theory and policy of the twin roles of TNCs as active participants in fragmentation as well as in integration and globalisation. In particular, section 10.2 explores some theoretical issues and section 10.3 considers policy implications. Section 10.4 analyses various types and phases of interaction between TNCs and other players in society.

10.2 Some theoretical issues

This section touches on some theoretical issues deriving from the twin roles of TNCs in integration and fragmentation. It will also consider one specific theoretical issue linked to the new technologies. All these issues have a bearing on various aspects of economic analysis.

1 TNCs, specialisation and trade

An OECD report (1992) sees the internationalisation process after the Second World War as proceeding 'in three broad stages with profound effects on the nature of global competition' (p. 11). The first stage is dominated by the mechanisms of trade, the second one is characterised by FDI and the current and third stage is characterised by the increase in international inter-firm partnerships. The first stage spans up to the late 1960s, the second one up to the early 1980s and is followed by the third, current stage.

This is an interesting historical analysis. However, it should be pointed out that the introduction of new mechanisms of integration at each historical period does not mean that new mechanisms substitute previously established ones. The various mechanisms are complementary and gradually accumulate. Moreover, in the contemporary stage of internationalisation – the globalisation stage – most mechanisms and flows of integration originate with one specific actor: the TNCs. This is the most important characteristic of the current phase of internationalisation.

Traditionally, international business transactions occurred through the activities of uninational companies (UNCs) while the new globalisation phase is based on activities of TNCs. In the past, (a) trade was the main component of cross-border integration; and (b) trade originated with UNCs. Now trade, as well as other components of international transactions, originates with TNCs. Moreover, the relevance of trade compared to other transactions is declining, as we saw from Table 2.5 in chapter two. Thus the main differences between old and new internationalisation and integration must

be sought in terms of attributes, power and motivations of the TNCs: the actors most responsible for globalisation and integration.

The TNCs contribute to extend the width – geographical scope – of integration as well as the breadth – the scope by component – of that process, because they facilitate the diffusion from country to country and from one mechanism of integration to others. The fact that the same agents are responsible for many or most mechanisms, makes the processes of globalisation and of integration deeper and more diffuse across the various mechanisms and thus aspects of economic and social life.

At the macro level there are considerable effects from this shift in the type of companies responsible for internationalisation and integration activities. The dichotomy internationalisation via UNCs or via TNCs results in major qualitative differences. UNCs-based internationalisation and integration takes place under a 'residence/territoriality' principle by which the location of the company, its assets, production, the employment it generates, are all territorially consistent (Chick, 1979; Ietto-Gillies, 1993, 1996b): they are all part of the same country/nation-state. With FDI and international production, integration follows an 'ownership' principle in which the interests of companies in terms of their assets, the profits deriving from those assets, the ownership and control of production, span many nation-states. This ownership configuration brings also a divorce between various aspects of production, some of which are related to the host country (employment, capacity creation) while others follow the ownership line (control over production and technology, profits).

The non-coincidence between ownership and territoriality produces several effects and in particular the following ones. First, in a world of UNCs the geographical scope of competitive and comparative advantages coincide. Companies' competitive advantages are forged in the same territorial context as the nations' comparative advantages. Thus the geographical scope for the competitive advantages of companies and the comparative advantages of the country coincide whenever UNCs are the only or main form of enterprise. In a world in which TNCs are a very large or the main contributor to economic activity, this is no longer true. In such a situation, companies forge their competitive advantages on the basis of cross-countries activities, rather than just on the basis of the activities in a single country. Does this territorial non-coincidence matter for the analysis of specialisation and comparative advantages? Further discussions on this point are in part III of this book. My feeling is that, in general, it does matter.

Krugman in his 1994 and 1996 works, as well as in other works, writes that it does not make sense to talk of nations' *competitive advantages* in the same way as we talk of companies' competitive advantages. This is because the expression 'competitive advantages' gives the feeling of losers and gainers at each other's expense and thus of competition as a zero-sum game. While it is reasonable to assume that this is the sort of game that companies are

involved in, when it come to nations it is a different story; so his argument goes. The implications are that, when two nation-states engage in trade, both countries gain from specialisation and therefore we should not talk of competitive but of *comparative advantages.* Not everyone agrees with Krugman on this point (Cohen, 1994). While I do not agree with the notion that international trade is a zero-sum game for nation-states, I think that the clear demarcation between advantages of companies and advantages of countries is very relevant for different reasons.

There are two relevant issues which should be considered in the analysis of specialisation and comparative advantages. First the specific character of the firms involved in production and in particular whether they are uninational or transnational. Second, the type of resources, assets and capabilities which pertain to countries and firms. Some assets and resources are natural and specific to locations. Moreover, most of these are also location-bound and immobile. These are the ones that figure prominently in the traditional trade theory. However, some assets and capabilities are created by firms and often specific to them. Many of these created assets and capabilities are also mobile (Dunning, 1995, 2000b). Most of these assets generate ownership advantages for firms as well as location advantages for the country in which they are utilised. Conversely, countries' locational advantages can also enhance firms' ownership advantages (Dunning, 1977, 1980, 2000b).

In a world of uninational companies (UNCs), the spillover of advantages from firms to locations and vice versa remains within the confine of the nation-state. However, in a world of transnational companies the spillover – in both directions – crosses the national boundaries. The first case leads to coincidence of competitive advantages of companies and comparative advantages of countries. The second one – the TNCs' case – does not.

For this reason it has become increasingly more problematic to analyse international trade on the basis of: (a) location bound and static advantages; and (b) models that do not take account of the multi- and transnationality of operations of companies. This is the more so since these companies are responsible for some three-quarters of the world trade as we saw in chapter two.

In chapter eight I argued that the strategies of TNCs have to be taken into account in analysing trade. Here I am saying that the nature of their interaction with the localities affects the comparative advantages of countries as well as the competitive advantages of firms. I am also saying that there is no one-to-one, simple correspondence between advantages of companies and countries. All this affects the world pattern of production and trade. It is therefore an issue which should be given more consideration in the theory of international trade whether it is based on the assumption of static factor endowment or on assumptions of dynamic economies of scale.

2 *Micro and macro perspectives*

The analytical connection between micro and macroeconomics has always been one of the problematic areas of economics. Scholars of Keynes' theory have been aware of this for some time (Chick, 1996). However, the growing relevance of TNCs is generating additional aggregation problems. As just mentioned in (*1*) above, in a world of TNCs we cannot assume that the aggregate advantages of domestically based firms coincide with the advantages of the nation-state. For this reason it is useful to keep the demarcation between competitive (of companies) and comparative (of countries) advantages.

In developing macro theories from micro assumptions we explicitly or implicitly assume consistency between micro and macro elements. These elements may refer to motivations, strategies, factor endowment, policy effects or others.

In a world of uninational companies, the competitive advantages of companies and the comparative advantages of countries are territorially consistent: they are both forged by elements related to the territory of the nation-state. Therefore, aggregation from one to the other – from the micro world of companies, to the macro world of the nation-state – is a logically consistent process, whether we assume constant or increasing returns. It is, indeed, true even when there are economies of scale of the external variety because they can be taken account of at the level of the industry within a country. Explaining the location of production, specialisation and international trade on the basis of variables which reflect the motives and strategies of companies as well as the policies and factor endowment of countries does not lead to any inconsistency.

However, in a world of TNCs, the motivation and strategies of companies transcend the territorial boundaries of the nation-state (Chick, 1979; Ietto-Gillies, 1993). Their capabilities become largely independent of a single country's factor endowment. This situation leads to serious problems in the aggregation exercise from the micro to the macro economy. The aggregation exercise which goes from the motivation, strategies and capabilities of companies to those of countries is no longer logically consistent. The territories of the two no longer coincide. Models of international trade may have to reflect the new situation at both theoretical and applied levels. The variables that explain the location and trading patterns of TNCs should be variables that transcend the national boundaries.

The tension between the micro and macro spheres in a world of TNCs manifests in other conceptual and statistical fields. The data on flows of FDI and related stocks do not have the same meaning as the data on gross domestic fixed capital formation (GDFCF) or on domestic capital stock. The data on FDI include both greenfield[2] investment and acquisitions of existing companies/capacity by foreign companies. This means that FDI measures the increase in productive capacity for the company though not always for

the host country and for the world as a whole. Essentially, whether the FDI takes the form of greenfield or of acquisition/merger, the TNC will have increased its productive capacity as a result of FDI. However, only greenfield investment results in increased productive capacity for the host country and the world as a whole because foreign investment via acquisition/merger constitutes just a change in ownership of productive capacity, not an increase of it. In the medium to long term a merger sometimes leads to declining capacity if rationalisation follows; sometimes it may lead to increased capacity if greenfield investment follows the merger/acquisition.

This meaning of FDI contrasts with the meaning of the GDFCF, which measures increase in productive capacity. These are not just statistical conundrums arising from the methodology of data collection. There are important conceptual issues behind them. In dealing with foreign investment, economists and statisticians are taking a micro approach: an approach that puts the TNCs at the centre of statistical analysis. In the context of foreign investment, the concepts of capital formation, new assets and changes in productive capacity, are developed from the perspective of the company and not the macroeconomy and the host country. Thus the FDI statistics take a micro (company) stance; while the national statistics take a macro stance in assessing the capacity creation of FDI and GDFCF.

This issue is particularly relevant because mergers and acquisitions (M&As) have become a very large percentage of total FDI. Table 2.8 shows that, in the last few years, the M&As' share is well over 70 per cent and increasing. Moreover, there are signs that the micro point of view in relation to FDI data may be followed in other areas. There are attempts at developing balance of payments statistics similarly based on ownership and micro-elements rather than on the transaction flows of the national economy (Julius, 1990; National Research Council, 1992).

3 Strategic perspectives

Neo-classical economic analysis tends to explain economic facts largely on the basis of efficiency objectives. Yet most key decisions by companies (or indeed often by governments) cannot be explained on the basis of efficiency drive: there is a strategic basis to many such decisions often connected with distribution and power struggles between economic actors. This has been the key motive of this book in the explanation of locational patterns of TNCs' activities in terms of strategies towards labour and national governments.

However, a similar analysis may have to be at the basis of other areas of economics. For example, it seems increasingly difficult to accept that the drive towards privatisation of British public utilities has been and is motivated by efficiency considerations. The large social costs of the privatised rail industry would seem to contradict this viewpoint. The extensive organisational fragmentation of the industry as well as its huge social costs have recently become the focus of attention following several rail disasters. Yet

it would be wrong to consider fragmentation as one unfortunate by-product of privatisation. These two elements – private ownership and organisational fragmentation – may be part and parcel of the same overall strategy: the shift of power from labour to capital. Labour is more powerful in public and/or internalised institutions. Capital gains from a strategy of organisational fragmentation that weakens labour; it also gains from the overall privatisation programme which increases the basis for profit-making activities.

In this example the relevant dimension in the fragmentation strategy is the organisational one; in other cases it may be the locational one (across nation-states) or a combination of the two. What is crucial to all of them is the strategic perspectives in relation to other players in the economic system, be they labour or governments or other firms. Therefore, strategic elements, of whatever nature, should be at the forefront of economic analysis to help us understand contemporary economic systems.

4 New technologies and sectoral taxonomy

The implications from the new technologies must also be at the forefront of analysis of economic theory in general not just on those specific areas of industrial economics dealing with innovation and technology. Technology is not the subject of this book. However, I would like to consider one specific example. No doubt there are many more cases in which economic theory would greatly benefit from the incorporation of innovation and technology issues at the very core of its analysis. Unlike the previous three issues the one considered here does not relate to the TNCs' role in fragmentation and integration. It relates to the aggregation and classification of industries and their implications for economic analysis, in the light of the new technological paradigm.

The ICTs have brought about not only massive changes in the economic base but also the need to reconsider some of the traditional economic analyses. There are many areas of economic theory that may need to be reconsidered in the light of the impact of new technologies. Here I will deal with the following specific one. The ICTs have implications for how we demarcate between sectors of the economy, how we assess their performance and how we see the relationship between them.

Before I consider this issue a word on the problem of the ICTs and the productivity changes. There is a *prima facie* expectation that the widespread use of information and communication technologies (ICTs) would affect the productivity of both manufacturing and services. However, until recently there has been no conclusive evidence about the effects of ICTs on productivity. Some literature has pointed out that even in countries with high ICT intensities, productivity does not appear to have increased substantially and certainly not in a widespread way throughout the various industries. This has been labelled as the Solow paradox.

However, Dalum *et al.* (1999) point out that the nature of ICTs require profound and widespread changes in the economy and society. This means that the full impact – including large and widespread increases in productivity – requires a considerable degree of adaptation and developments in society. More time may therefore be needed for the full impact to be felt. According to this perspective, we are therefore still at the beginning of a long process and it may yet be too soon for the productivity impact to be felt fully.

There is strong evidence that this is indeed the case in a recent work by Oliner and Sichel (2000). These authors find that the contribution to output and productivity growth (in the US non-farm business sector) of computer production and of the use of information technology (which includes computer hardware, software and communication technology) was very low in the early 1990s. However, it appears to have become very substantial in the second half of the decade. Indeed, on the basis of their empirical results, the authors conclude that: '. . . information technology has been the key factor behind the improved productivity performance of the U.S. economy in recent years' (p. 27). They predict a continuation of this performance in years to come particularly since the productivity gains from e-commerce are also likely to come on stream.

All this is relevant for the analysis of growth and development. The traditional analysis stated that at early stages of development a shift in labour employed from agriculture to manufacturing would lead to an increase in the level of output and productivity in the economy as a whole. This is due to the higher levels and growth rates of productivity in manufacturing (Verdoon, 1949; Kaldor, 1967) compared to agriculture and services. Indeed, this was the reason for the current sectoral taxonomy as originally developed in the works of Fisher (1939) and Clark (1940). The sectoral structure of production developed by economists was linked to the employment potential and to the process of development. The traditional taxonomy therefore reflected the underlying theory behind the explanation of development and employment potential.

Two major elements due to the ICTs are creating the need to rethink this traditional Fisher–Clark sectoral taxonomy. First, the strong and increasing role of the new technologies in the production processes means that high levels and growth of productivity are increasingly more likely to be linked to the intensity of use of such technologies whether they occur in the production of goods or services: productivity growth may no longer be the prerogative of manufacturing only.

Second, the fact that the use of ICTs in production is accelerating the blurring of the distinction between manufacturing and services:[3] manufacturing products are becoming more service-intensive and service output is becoming more manufacturing-intensive (Nayyar, 1988; Miles, 1993; Kitson and Michie, 1996). This is due to the fact that the production of both goods *and* services needs the services of computer specialists while

the production of services need the hardware and infrastructure required by the ICTs. Thus manufacturing and services are acquiring a new complementarity.[4]

There are two aspects to the demarcation services versus manufacturing: the first one refers to the (im)materiality of the products; the second one refers to their actual and potential contribution to growth in the economy via their contribution to productivity. The demarcation according to the first characteristic is still useful in a variety of contexts including the tradability of products.[5] The second demarcation criterion may no longer be valid and we may need a new taxonomy based on intensity in the use of IT (Preissl, 1995). Such intensity may be the characteristic that leads to high level and growth of productivity independently of whether the products are manufacturing or services, material or immaterial.

The developments highlighted here are still at their infant stage. They are dependent on the diffusion of ICT in manufacturing and services. Though their use is increasing, large sections of the service industries are still untouched by the IT revolution. Thus the current situation is one where there is still a considerable productivity gap between manufacturing and services. It can also reasonably be claimed that in some services the introduction of new technologies will always pose problems or indeed will not be possible at all and that they will always remain labour-intensive. Nonetheless, what is here claimed is that the introduction of ICTs is possible – and indeed is occurring – in many large service industries (such as the financial industries) and that its increasing use will gradually narrow the productivity gap between manufacturing and services.

As these patterns evolve, the scope for analyses of development and growth based on the Fisher–Clark sectoral demarcation can be called into question. A demarcation based on technology intensity and usage that cuts across the manufacturing versus services divide may become more appropriate for the analysis of development, growth and employment potential in the twenty-first century.

10.3 Policy implications

In chapter nine I refer to Keynes (1937) from which the analysis of *causa causans* is taken. In the same article Keynes distinguishes between his theory on the causes of unemployment and the related policy applications. He writes:

> Naturally I am interested not only in the diagnosis, but also in the cure; . . . But I consider that my suggestions for a cure, which, avowedly, are not worked out completely, are on a different plane from the diagnosis. They are not meant to be definitive; they are subject to all sorts of special assumptions and are necessarily related to the particular conditions of the time. (pp. 121–2)

Keynes makes it clear that suggestions for a cure must be '. . . related to the particular conditions of the time'. The most striking characteristics of our times are the dominant role of TNCs and the sweeping technological developments particularly in the field of ICTs. This is why I feel that these two elements must be at the forefront of both analysis and policy design. Consideration was given to some theoretical implications of both these characteristics in section 10.2 above. The present section will not put forward specific policies. It will, instead, outline the type of general framework which emerges as a logical corollary to the analysis developed in the previous chapters.

This book considers the role of TNCs in both integration/globalisation and fragmentation. The approach to globalisation and its causes developed in chapter nine allows the separation of those driving forces that are largely reversible and/or due to political will (such as liberalisation policies, action of domestic governments or international institutions) from those that are connected with the development of productive forces and constitute the basis of the new phase of capitalist development.

There are specific long-term policy implications from this analysis. First, the fact that those driving forces of the globalisation process which are not dominant causes, can be reversed. Thus, for example, this approach considers the growth of financial transactions to be a driving force though not a dominant cause. Much financial activity far from contributing to the development of the productive forces is a hindrance to it and has a purely distributive purpose. Moreover, the financial dominance of domestic and international economies is reversible if the political will is there. Financial regulation at the national and international levels will affect most economic actors including the TNCs. As already mentioned in chapter two, the TNCs are involved in many purely financial transactions. Any controls on the overall flow/direction of transactions would inevitably control some of their purely financial dealings. Any financial reform must necessarily look at the role of international financial institutions such as the IMF and the World Bank.[6]

The approach of this book encourages us to consider globalisation in the perspective of different actors participating in the process, their relative position and their mode of participation (active or passive). Moreover, the stress on the TNCs' fragmentation role stems from the analysis of their strategies towards other players in the economic system and in particular towards labour and national governments.

The TNCs play the key role in the development of organisational innovation within and across borders; indeed they are, at present, the only actor which can truly plan, co-ordinate and control activities across borders. This puts them in a position of considerable power vis-à-vis other actors and in particular labour, national governments, consumers, uninational companies. In both approaches – to globalisation and to fragmentation – the position of TNCs vis-à-vis other players has relevant policy implications in the following areas.

We need more *co-ordination* power within and across frontiers, by *other actors.* There is, therefore a need to implement policies designed to develop countervailing transnational power in the other actors, be they labour, uninational companies, consumers or governments themselves. This will enable other actors to participate fully and actively in the globalisation process and will make the process more *inclusive*.

In dealing with the TNCs there is scope for national governments to exercise both their co-ordinating and conflict-resolution functions (Kozul-Wright and Rowthorn, 1998b; introduction). The two functions can be applied to the relationship between state and TNCs, between TNCs and other actors in the economic system, between the national and international community, between national and international governance. In a world in which much activity takes place across borders and some knowledge-based products can be diffused globally at very low marginal costs, there is, in fact, an increased need for *transnational governance* as well as national and regional governance. This can be achieved via the establishment of appropriate supranational institutions whose aim is to monitor transnational activities and encourage some or deter others in conjunction with an overall strategy worked out together with national governments. In this context, I see the latter as having a larger not a smaller role.

In the 1980s and 1990s, governments seem to have thrown in the towel and given up developing strategies, leaving TNCs in charge. Thus a situation has developed in which strategies across countries are developed by individual TNCs but not by governments or other economic actors. This does not mean that there is a coherent strategy emerging for the corporate sector, let alone the macroeconomy. As companies develop their own strategies independently of each other and usually in a rivalristic framework, the overall result is often a meso and macro environment full of inconsistencies and lacking in coherence (Cowling, 1990; Cowling and Sugden, 1994).

Chapter six highlighted the fact that TNCs' strategic behaviour in dispersing their activities may be partly due to a desire to diminish risks and uncertainty. In section seven of the same chapter it was pointed out how their own strategies may indeed increase the level of *uncertainty at the macro economic level* and how this creates problems for national governments. It was argued that this increases the need for a coherent strategic approach to industrial policy in a world dominated by TNCs. This means the development of strategies for specific industries as well as for co-ordination across industries and policy areas (Chesnais and Ietto-Gillies, 2000).

The issues of relationships between developed and developing countries manifest in a variety of problems and shapes. In many writings – both on the right and left – on policies and strategies for the new economy, we read about the importance of developing the physical and technological infrastructure as well as the human infrastructure through the upgrading of skills. Upgrading the physical and human infrastructure is a strategy to be welcomed in itself for its overall benefits to the economy but also because

it is more likely to attract high value-added activities (Reich, 1990). One of its advantages is the fact that it leads to long-term productivity gains and puts the country on an upward spiral unlike a strategy based on low wages and low skills and productivity.[7] However, looking at the world as a whole, there is one problem with this strategy: it may lead to further polarisation between developed countries (recipient of high value-added FDI) and developing countries (more and more earmarked for low value-added activities). As the demand for unskilled jobs declines comparatively or in absolute terms, this issue has also overall implications for the employment opportunities in both developed and developing countries.[8]

Some authors are trying to address the problems of TNCs' accountability and social responsibility for their activities in developing countries. Ward (2001) discusses the pros and cons of a possible legal redress in the home country for infringements in host countries (Foreign Direct Liability). The issue is far from clear cut. While I feel that these types of policies must be considered, we must also be aware that they are reactive. We need more pro-active strategies by governments in both developed and developing countries.

The development of the ICTs and indeed of other technologies particularly in the life sciences are giving a tremendous boost to the productive forces. We are, in many ways, still at the beginning of the exploitation of productive potential of all the new technologies. There are some key questions arising from these developments and in particular: (1) can knowledge and the results of research be kept private when its public character[9] is so clear in terms of the scope for (and low marginal costs of) utilisation and diffusion? (2) Can the social relations of production remain the same in the face of such sweeping changes in the productive forces?

10.4 From confrontation to co-operation and back again

The 1960s and 1970s were seen as decades of *confrontation* between TNCs and national governments, particularly but not exclusively, those in developing countries. Servan-Schreiber (1968) led the attack on American investment in Europe. There were large numbers of nationalisations of foreign affiliates particularly in developing countries.

Most writers on the economics of international business welcome the change of direction and the more TNCs-friendly political environment from the 1980s onward. These were seen as decades of *co-operation* between national governments and TNCs (Dunning, 1993: ch. 13). Far from threatening nationalisations many governments in developing countries followed in the footsteps of some developed countries in engaging in large-scale privatisations. The privatised assets were often bought by foreign companies. UNCTAD-PTC (1993: fig. 1, p. 17) shows that the number of nationalisations peaked in the mid-1970s and became non-existent after the mid-1980s. Privatisations started in the mid-1970s and increased very rapidly in the 1980s and 1990s.

The co-operation went hand-in-hand with the establishment and diffusion of a liberal agenda in which deregulation created the conditions for TNCs to pursue their own strategies within and across borders without any obstacles. It would, however, be wrong to see the 1980s and 1990s as decades of low government intervention. Both national governments and international institutions have indeed been very interventionist, though mainly with policies designed to shift power towards capital and in particular the TNCs.

Throughout the 1990s we have been bombarded with a rhetoric based on the equation globalisation equals liberalisation and deregulation. This equation seems to have been accepted by many on both the right and the left: the former sees it as desirable, the latter as inevitable. It is neither and we must reject the equation: it is not a mathematical truth. We can have many positive aspects of globalisation without the deregulation binge of the 1980s and 1990s with all the related problems they generated. Globalisation has been used as an excuse for liberalisation.

In this ideological framework, the co-operative stance has increasingly led to stronger and stronger opportunities for TNCs to follow their own strategies in an unfettered way. In effect we have seen co-operation turning into TNCs' *domination* of various other economic players including governments themselves.

Various groups in society saw their power waning while the distribution of income and wealth moved away from the poorest people, groups, communities, classes, countries, to the rich ones. This has led to a social and political environment characterised by, among other elements, the following: (a) increasing discontent which has taken the route of grass-root opposition to the visible face of global capitalism (such as high-profile TNCs and well known brands); (b) disillusion with the democratic process. *Confrontation* has come back on the world agenda but not as confrontation between governments and TNCs but rather between people – organised by various pressure groups – and TNCs as well as international institutions (such as the World Trade Organisation) seen as the agents of TNCs and the midwives to the globalisation ills. Many pressure groups and young people see appeals to national governments as a lost cause, particularly in the context of the ideological stance of most of them and the aftermath of the collapse of the Soviet bloc. Thus the confrontation takes on the form of street protests.

As governments followed strategies for the few, often in opposition to democratic principles, people have come to believe less and less in the democratic process as a way of changing the social and economic situation. The gradual fall in electoral participation in many developed countries – and most notably in the US and UK – is a sad sign of this disillusionment with the democratic process.

The various confrontation forms that have been taking place in the 1990s are described by the journalist Naomi Klein (2000). This is not an academic book; however, it should not be simply dismissed given its success

among young people and given the relevance of the issues considered. One general point that struck this author in reading it, is the fact that Klein seems at a loss when it comes to policies. This is certainly not the product of incompetence or lack of consideration. It is a sign of a total lack of faith in the ability to change the situation via the ballot box. A feeling which is unfortunately widespread among young people. This is a worrying and dangerous sign.

Street protests, demonstrations, massive meetings whether in Seattle, London, Prague, Nice, Davos or Porto Alegre may have a function in raising awareness of the problems associated with globalisation and of the plight of people, groups, communities, countries which bear the negative consequences without participating actively in the process and its benefits. However, they are unlikely to go much further. Once awareness of problems is raised, we need to channel the discontent into pressure for governments' action. The democratic process must be made to work. It can only be achieved if we move *from confrontation to regulation.* National governments must regain the lead in developing appropriate policies to deal with the TNCs' powerful position. We need regulation to channel the many opportunities and cope with the many problems raised by the new technologies and by the TNCs' activities (in relation to the environment, safety, competition, labour standards) and because many problems need appropriate international institutions. Self-regulation is unlikely to work even for issues of environmental and labour standards; in the end high standards in these areas will always be in the way of profits. Moreover, self-regulation cannot secure the co-ordination within and between industries necessary for the long-term prosperity of companies and countries.

Transnational companies have a positive role to play in the current phase of capitalist development. Many are involved in much needed development and diffusion of innovation; many produce products that people genuinely want and need; many generate employment and develop skills. However, their activities must be regulated by a system of coherent governance within and between borders. The current pattern of social exclusion to the benefits of globalisation and technological advances must be replaced by a more inclusive and participatory framework. Inclusiveness must embrace present and future societies via a serious commitment to (and implementation of) a responsible strategy for the environment.

Notes

Chapter 1

1 Exceptions to this pattern are some long-distance trade routes such as the silk route from China to Europe.
2 This does not mean that multinational companies and their activities are a feature of the last fifty years. Their establishment and activities date prior to WWI (Jones, 1986) and indeed some authors trace them back to the inter-states activities of major banks in Renaissance Italy (such as the Florentine Medici bank) (Wilkins, 1998).
3 Kozul-Wright and Rowthorn (1998b) also stress the qualitative and quantitative nature of global processes (cf. their introduction, pp. 1–34).
4 The use of the term 'domain' in this specific context is taken from Held *et al.* (1999).
5 The role of liberalisation and privatisation in the globalisation process is discussed in Milberg (1998).
6 Obstfeld (1998) shows that in the four decades prior to WWI the ratio of international net capital flows, as percentage of GDP was higher than at any other period since.

Chapter 2

1 The growing importance of China in internationalisation is highlighted also by the growing ratios of various indicators of her international activities – FDI, exports, industrial output, employment – in relation to the domestic economy (UNCTAD, 1996: II.3, p. 56 and John *et al.*, 1997).
2 FDI includes both greenfield and mergers and acquisition investment. The two variables – FDI and GFCF – are not therefore strictly comparable. The theoretical implications of this point will be reconsidered in chapter ten.
3 More on this issue in the next chapter.
4 For countries and regions details cf. UNCTAD (2000). An analysis of cross-border M&As for EU countries is in Ietto-Gillies *et al.* (2000).
5 Cantwell's analysis is wider than the one mentioned here. He considers the pattern of trade (intra- versus inter-firm trade and intra- versus inter-industry trade) as well as the applicability of the traditional factor endowment (Heckscher–Ohlin–Samuelson) framework for the explanation of trade.
6 In this passage DI stands for direct investment and EDIE for European Direct Investment in Europe.

7 This point will be discussed further in chapter ten.
8 OECD (1994: 100) thus defines portfolio investment. 'Portfolio investors are considered to have no influence on the management of a company whose shares they possess. Portfolio investment covers all bank deposits and financial investments in the form of government or private security'.
9 His views will be further discussed in chapter nine.
10 For a discussion of these points, cf. Ietto-Gillies (2000a) on which most of this section draws.
11 The data in the table refer to 'earnings' which include both profits and interests on loans between parent and affiliate. The loan component is very small.
12 It should be noted that the data in Table 2.14 include intra-EU flows for both earnings and FDI.
13 Cf. Held *et al.* (1999: ch. 6) for a review of the historical trends and contemporary migration flows.
14 On the role and motivation of highly skilled expatriate labour within the TNCs cf. current research for doctoral dissertation by Helen Sakho at South Bank University.
15 On which more in the next chapter.

Chapter 3

1 It will be made clear when a specific statement refers to other organisations besides the firm itself.
2 Dunning (1997: 102) talks of 'soft' boundaries of the firm.
3 Empirical evidence for the UK is in Colling (1995) and O'Farrell (1995).
4 More on this in chapter six.
5 Cf. chapter two, section seven for evidence on the growth of inter-firm partnerships.
6 The relevant antecedents to those organisational models have been traced to eastern business practice, from the Japanese *keiretsu* to the Korean *chaebol,* (Castells, 1996) as well as to Victorian Britain (You, 1995; Casson and Cox, 1997). The co-operative arrangements of small firms in industrial districts fall also under this group.
7 This by itself does not, of course, explain why firms want to engage in international production. This is the subject matter of theories of international production, the MNC and FDI. For a review of this topic see Buckley (1981), Cantwell (2000), Ietto-Gillies (1992) and John *et al.* (1997: ch.5).
8 Cowling and Sugden (1998) point out how a ('the'?) major element in Coase's analysis (the allocation of resources via planning within the firm) has been rather overlooked in subsequent literature, compared to the element of transaction costs economising.
9 Cf. Pitelis (1993) for a comprehensive analysis of transaction cost theory of the firm.
10 Some authors do consider strategic elements in the establishment of inter-firm partnerships. Cf. in particular Glaister and Buckley (1996). Narula and Hagedoorn (1999) distinguish between strategic and cost economising inter-firm technology agreements.
11 This approach to the employment contract and to the behaviour of employers and employees is strongly criticised by Marginson (1993).

12 Cf. Semlinger (1993). Easton and Araujo (1997) analyse the use of inter-organisational networks to meet heterogeneous demand thus demand that varies qualitatively rather than quantitatively as in the example above. Cowling and Tomlinson (2000) see one of the features of the Japanese *keiretsu* as insuring an income stream for the subcontractors against fluctuations in demand.
13 Kogut *et al.* (1993: table 4.3, p. 82) consider 'between' and 'within firms' sources of flexibility which are of technological, organisational and spatial type.
14 See also Cowling and Sugden (1987a) and Peoples and Sugden (2000) on 'divide and rule' strategies of TNCs.
15 The strategic move towards partial ownership is, for example, implicit in this passage from Reuters Group PLC (1999) *Annual Report* which reads: 'In framing a collection of assets, we do not need to own them all 100%, as we used to do' (p. 9).
16 The role of information in organisations and networks is explored in Casson (1997) and Casson and Cox (1997).
17 The cost of co-ordination has been included in the list of efficiency elements in section 3.4 above.
18 This approach has been applied effectively to analyse the negative effects of transnational strategies by the prime firms within the Japanese *keiretsu* (Cowling and Tomlinson, 2000).
19 Marginson *et al.* (1995) report examples of international co-ordination in the internal provision of goods and services (p. 182) and in the organisation of personnel and industrial relations across countries (p. 183). These internal co-ordinating activities are aided by the TNC's internal computer linkages within and across countries as reported in section 2.7.
20 It has been pointed out that trust is relevant in all aspects of business relationships (Lane, 1998), from industrial relations (Marsden, 1998) to inter-firm partnerships (Ebers, 1997: part III; Child, 1998; Humphrey, 1998). Nonetheless the higher level of fragmentation along any of the three dimensions, the higher the need for trust as well as for effective co-ordinating systems and for well-defined contractual relations (Deakin and Wilkinson, 1998).
21 The ownership advantages given by existing networks in developing new FDI type of networks has been explored in the literature. So has the search for networks as channels for acquiring competitive advantages (Chen and Chen, 1998).
22 The social costs of the organisational and ownership fragmentation of the UK rail industry after privatisation include safety risks and high government subsidies.

Chapter 4

1 Sullivan's work has given origin to a lively debate on the theoretical and statistical foundations of his composite index (Sullivan, 1996; Ramaswamy *et al.*, 1996).
2 A brief discussion of the framework for the Network Spread index is also in UNCTAD (1998: Box II.2, 43–4).
3 Davies and Lyons (1996: chs. 7 and 11) develop a Multinationality index as 1-Herfinolahl index and use it to assess the spread of activities of large companies in the EU. They therefore combine our NS_i and H_i together. I prefer to keep

them separate to stress the relevance of having a presence in one or many foreign countries (via NS_i). I am essentially trying to consider and assess separately the second and third type of strategies discussed above.

4 If a company operates in all the 178 countries, which are potential host countries considered in the construction of our NS_i, the value of H_i is 0.0056, thus very close to zero.

5 A considerable part of this section is based on a draft prepared by Peter Antonioni as part of the empirical work he did on the project leading to this chapter.

6 The number of trade partners is very small.

7 Although all 664 companies in our sample are drawn from the *BusinessWeek* survey of the top 1000 companies, they are not necessarily the largest 664 companies in the survey, for the reasons given above.

8 The most recent Dun and Bradstreet database does contain partial details of data on sales and or employment for some of the affiliates of the parent companies.

9 Calculations for this last ratio are based on the data in UNCTAD (1998, table I.2: 3–4).

10 Molero (2000) analyses the internationalisation strategies of smaller companies in Spain.

11 Calculated as a ratio of the total foreign affiliates of the TNCs in our sample (58,626 in our Table 4.4) divided by the number of foreign affiliates of the total world TNCs. UNCTAD (1998: table I.2 pp. 3–4) gives the total world TNCs as 53,607 and the total world foreign affiliates as 448,917. For more recent world data cf. Table 2.2).

12 The percentage of 70 is the result of 40,976 as a percentage of 58,626. The 22 per cent is calculated from data in UNCTAD (1998: table I.2, pp. 3–4) which gives 96,620 and 448,917 as the foreign affiliates located in developed countries and in the world as a whole, respectively.

13 Cf. UNCTAD (1998: table B3, pp. 373–7 and table B4, pp. 379–84). More recent data are in the Tables 2.3 and 2.4.

14 Cf. Table 4.2, column 6.

15 Hannah (1996) singles out the unusual results for the index of multinationality calculated by UNCTAD-DTCI (1995) for Britain. He ascribes them to Britain's history though more in terms of the effects of commercial links than in terms of colonial past.

16 This issue will be taken up again in chapter eight.

17 There is evidence of considerable differences in cross-border mergers and acquisitions activity by country of origin of direct investment as well as by industry UNCTAD (2000) and Ietto-Gillies *et al.* (2000).

18 Cf. chapter three.

Chapter 5

1 Cf. Ietto-Gillies (1996a).

2 I have not calculated the NS_i as in chapter four because it was not possible to have comparable and reliable data on the total world number of countries in receipt of stock of inward FDI (n^*) for all the five years of the study. For early years the stock of FDI is available only for regions and a few developed countries.

3 Cf. chapter three.

4 See note to Table 5.3.
5 Cf. Vernon (1966) and also Ietto-Gillies (1992: ch 8).
6 These results are consistent with those in Ietto-Gillies *et al.* (2000) for cross-border mergers and acquisitions. This was to be expected as, after all, most FDI takes the form of M&As as we saw in chapter two.

Chapter 6

1 Cf. also Pitelis (1999).
2 The development of international schools is a by-product of the expansion of expatriates; it may also be a sign that a large number of expatriates may prefer not to send their children to boarding schools.
3 Knickerbocker (1973) develops and tests a model of location of FDI partly on the assumption that firms face risks if they do invest abroad but also if they do not. The resulting pattern of 'clustering' of FDI in specific locations is – in his model – partly the outcome of companies' wish to follow strategies that give them some protection against risks.
4 The issue of power vis-à-vis labour is clearly and effectively analysed in Marginson (1993).
5 The effects of TNCs' activities on labour are researched to a much larger extent. Cf. Enderwick (1982, 1984, 1985) as well as UNCTAD-DTCI (1994). Cf. also Marginson (1994).
6 Cf. also Cowling and Sugden (1987a).
7 As well as fragmentation strategies these can also be considered as organisational and geographical diversification strategies.
8 Therefore the analogy with Aliber's currency regime is no longer applicable.
9 Penrose (1959, 1987) stresses also the advantages of using firm-specific resources in the internalisation strategy as mentioned in chapter three.
10 Cantwell (1989, 2000) has developed an evolutionary theory of the TNC in which companies' technological capabilities and advantages are acquired, among others, by operating in countries with different technological cultures and environments. Thus locational diversification gives the company cumulative technological advantages and may lead to locational advantages for the home and host countries.
11 Acocella (1975) and Pitelis (2000) develop approaches linked to effective demand at the macro level. This is to a lesser extent also true of the approach in Aliber (1993) which will be considered in the next chapter.
12 Cf. Marginson *et al.* (1995).
13 *Ex post* footlooseness (that is relocation of existing assets) may also take place though it is less likely as relocation of fixed assets is quite costly.
14 A strategic approach to industrial policy for Britain and Europe in the era of TNCs is advocated in Cowling and Sugden (1990) and in Bianchi *et al.* (1994).
15 Held *et al.* (1999: ch. 7) have an interesting discussion of the possible relationship between national cultural fragmentation and 'devolutionist, regionalist or independence movements' (p. 373).
16 Cf. also chapter nine.
17 For an account of the concept of explanatory surplus and its use in assessing the corroboration of hypotheses, cf. Gillies (1993: ch. 10).

Chapter 7

1 Reprinted in Cohen *et al.* (1979: 75–93) from which the quotes above are taken.
2 Reprinted in Cohen *et al.* (1979: 41–53) from which the quotes are taken.
3 Some of the points in Hymer (1970, 1972) are further developed in his 1971 work reprinted in Cohen *et al.* (1979: 54–74).
4 For the distinction between structural and transactional imperfections cf. Yamin (2000).
5 Cantwell (1989: 216) feels that 'Internalisation theory . . . is at its strongest when discussing vertical integration . . .' though on weaker ground when discussing technology-based products and processes.
6 Blonigen (1997) explains acquisitions FDI via a model based on exchange rates.

Chapter 8

1 A shorter version of this chapter has been published in Ietto-Gillies (2000b). The journal web site is: http://www.tandf.co.uk
2 Cf. chapter seven.
3 Prior to the new trade theories there was a considerable body of economic literature dealing with increasing returns (Young, 1928; Kaldor, 1967), as well as a body of economic geography dealing with agglomeration issues (cf. Krugman, 1998). What was lacking at the time was the ability to model them mathematically.
4 This conclusion is similar to the one reached by Vernon (1966) within a different theoretical framework.
5 As we saw in chapter two (Tables 2.2 and 2.4) approximately 77 per cent of the world MNCs originate from developed countries and so does some 90 per cent of the stock of world outward FDI.
6 These assumptions are also made in Helpman (1984) and in Krugman (1985) as noted above.
7 Helpman (1985) and Helpman and Krugman (1985) do consider some advantages of internalisation leading to intra-firm trade as noted in section 8.3.
8 This is a point made also in Dunning (1998).
9 These points are considered in Schiattarella (1993).
10 Within the 'new' trade theories complementarity elements are explored in Helpman (1984, 1985), Helpman and Krugman (1985) and Markusen (1997).
11 Cf. Thomsen and Woolcock (1993: ch. 4).
12 However, Markusen (1998) considers both horizontal and vertical integration within the same model. The vertical integration part leaves scope for intra-firm trade.
13 Elements (a) and (b) in column 3 are implicit in Krugman's (1991a: 71–2) quoted above.
14 Nonetheless, once a pattern of intra-firm trade develops, for whatever reason, it does give scope for the manipulation of transfer prices and all the related effects follow.
15 The results in chapter five show that the largest UK manufacturing and mining TNCs have increased their spread of activities. They also show that the gravitation towards developed countries of UK stock of FDI (on both inward and outward sides) has also been increasing through time.

Chapter 9

1 Bold in text.
2 Italics in text.
3 The summary in this and the next section is necessarily schematic and selective. It is based on a direct reading of the different works as well as on their summary in Held *et al.* (1999). The contributions of the various authors are much richer than sketched here. Moreover, not all the contributors to the debate are included.
4 Radice (2000), in an interesting critical review of this position, points out how the thesis is held by contributors belonging to a wide political spectrum. He prefers to call the thesis 'Progressive Nationalism'.
5 In section 1.2 I have expressed doubts about their historically comprehensive notion of globalisation and so does Pianta (2000). Bairoch and Kozul-Wright (1998) also criticise the view that the current globalisation process is very similar to the changes taking place during the period 1870–1913.
6 Chesnais' thesis is not discussed in Held *et al.*
7 Translation from French by Grazia Ietto-Gillies.
8 Italics in original.
9 These arguments are further developed in Gillies and Ietto-Gillies (2001) on which most of the content of sections 9.6 and 9.7 is based.
10 I suspect that it is also partly due to the reluctance of many economists to become involved in fields which require a multidisciplinary analysis.

Chapter 10

1 Amin (1993: 290) sees the 'blurring of ownership boundaries across territorial borders' as a new form of integration.
2 I am here using the term greenfield investment to indicate any investment that directly increases productive capacity whether it is done on 'bare soil' or whether it adds to an existing plant.
3 Wilkins (1998: 122) writes: 'The obscurity of the line between industry and services was recognized when in 1995, *Fortune* abandoned its separate lists of manufacturing and services companies . . .'.
4 The doubts about the sectoral taxonomy and the reasons behind them raise also doubts about the validity and relevance of the de-industrialisation debate in the current technological environment (Nayyar, 1988). Most of these analytical frameworks and debates – such as the original Fisher–Clark taxonomy or the de-industrialisation debate – must be seen in their historical context: they were very relevant when originally put forward and they may now be superseded by structural and technological changes in the system.
5 Nonetheless the ICTs are affecting also the way we trade products as noted in chapter one.
6 Chick (1979) already argued that the activities of TNCs required a new financial system.
7 Cf. also Marginson *et al.* (1995: 75) who point out how 'considerations of labour force skills and qualifications' are seen by managers as more relevant for their location strategies, than 'cheapness' of labour.
8 Wood (1994) sees the unskilled workers in the developed northern regions losing from this. Oman (1994) sees the developing countries losing their

comparative advantage in the unskilled labour-intensive products as the share of unskilled labour costs in total costs declines. He gives an estimate for the decline in the share of 'low-skilled labour costs in total production costs . . . from an average of 25 per cent in the 1970s to between 5 and 10 per cent today' (p. 8).

9 As I write the press is debating the issue of private ownership of the gene code as well as the possible breaking up of the Microsoft monopoly.

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