

Intellectual Property and Doing Business in China



Deli Yang

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INTELLECTUAL PROPERTY AND DOING BUSINESS IN CHINA

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INTELLECTUAL PROPERTY AND DOING BUSINESS IN CHINA

BY

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Bradford University School of Management

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For My Grandmother and Parents

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Series Editor's Preface

This volume of *International Business & Management* series is authored by Deli Yang of Bradford University in the UK. It deals with a major aspect, intellectual property, of doing business in China. It starts with a historical overview, presents different theoretical perspectives and explains the factors that are leading towards harmonization of intellectual property worldwide. It then critically reviews the intellectual property systems in China and provides some empirical examples of intellectual property flows from UK and USA into China. Highlighting the problems faced by firms, it provides possible solutions, predicting the future challenges in cross-border intellectual property flows.

Intellectual property issues have been central in doing business in China. Western firms have been reluctant to do business in China due to the lack of intellectual property protection. There are very few studies on the topic relating to China and the intellectual property protection. However, with China's entry into WTO, the situation has changed. We strongly feel that there is need for such a book explaining the changing conditions and future challenges in this respect. We are thus, very pleased to include this important volume in our collection and believe that it will be of some use to managers and researchers alike.

Pervez N. Ghauri
Series Editor

Preface

An intellectual property system was established in China in 1985. Since then, the merits and drawbacks of the system have become apparent in both theory and practice. Despite the fact that a great deal has been written about the Chinese intellectual property system, systematic studies of the subject are still scarce, especially from a corporate management perspective. The current empirical study aims to fill a void in our understanding of intellectual property in China, particularly from a corporate perspective by exploring three interlinked areas in intellectual property flows — problem detection, cause analysis, possible solutions and future thoughts. It is important to draw upon a variety of discipline approaches when exploring these issues, which are influenced by the political context, the legislative framework, economic factors and the existence of cultural differences.

The scarcity of information on intellectual property in China also forms the fundamental motivation to publish the results of the studies to increase the awareness of the pros and cons of intellectual property system in China.

The book is intended mainly for four groups of audiences:

- (1) It is a practical guide of intellectual property practices for multinational enterprises operating or working with partners in China, or with an intention of doing so in the future.
- (2) It is an informative book for academics who would like to obtain information on foreign direct investment, intellectual property protection and international technology transfer activities in China because the book has attempted to add knowledge to the existing IP research from a corporate perspective in China.
- (3) It is a reference book for governmental and international organisations in understanding the problems in both the intellectual property system in China and the inter-corporate relationships associated with, or arising from, intellectual property flows.

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- (4) It is a useful intellectual property book for Chinese companies who have business links or who intend to establish relationships with foreign companies. The book gives a good understanding of the issues of dealing with inward intellectual property flows.

For the publication of the book, I am indebted to many people and would like to express my deeply felt gratitude to them for their valuable advice, comments, and enthusiastic assistance leading to the important improvements and finalisation of the book (in alphabetical order).

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Mr Dong Wang, Ministry of Railways, China

Mr Roc Wang, Welltrade Limited, Hong Kong

Mr Zeshen Wang, Formerly Ministry of Nuclear Industry, P.R. China

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In addition, my special thanks go to all the company managers from the UK, USA and China whom I have interviewed. This research would not have been possible without their willingness and patience. Their responses form the crucial foundation for the results reported in this book. Their names, however, cannot be mentioned for reasons of confidentiality.

Last but certainly not the least, I would like to express my love and gratitude to my family for their support and patience for my single-mindedness in work, including writing up this book.

All the remaining errors and flaws in the book are the author's full responsibility and should not be attributed to anyone else.

Deli Yang
Bradford, UK
October 2002

Brief Author Biography

Deli YANG is currently Lecturer in International Business at the Bradford University School of Management, UK. She received her Bachelor's Degree of Economics in International Trade from the University of International Business and Economics, Beijing, China in 1988 and a Master's Degree in Business Administration from the Cyprus International Institute of Management, Cyprus in 1994. She also obtained a Master's Degree of Science in International Business from UMIST, Manchester in 1997, and a Ph.D. in Management Science on Corporate Intellectual Property Management from the same university in 2001. Her major research interests include cross-border, and corporate intellectual property studies, and piracy and anti-piracy analysis.

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Abbreviations

AIPPI	International Association for the Protection of Industrial Property
CCPC	China Copyright Protection Centre
CDE	Chinese Domestic Enterprise
CEO	Chief Executive Officer
CIETAC	China International Economic and Trade Arbitration Commission
CJV	Contractual Joint Venture
COE	Collectively Owned Enterprise
EJV	Equity Joint Venture
EPC	European Patent Convention
EPO	European Patent Office
EU	European Union
FDI	Foreign Direct Investment
FIE	Foreign-Invested Enterprise
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
HMT	Hong Kong, Macao and Taiwan
IC	Intellectual Capital
IP	Intellectual Property
IPM	Intellectual Property Manager
IPP	Intellectual Property Protection
IPR	Intellectual Property Right
ITC	International Trade Commission
ITT	International Technology Transfer
JE	Joint Exploration
JV	Joint Venture
MD	Managing Director

xxviii Abbreviations

MNE	Multinational Enterprise
MOFTEC	Ministry of Foreign Trade and Economic Co-operation
MOU	Sino-US Memorandum of Understanding
MU	Manchester United
MUFC	Manchester United Football Club
NAPAG	National Academies Policy Advisory Group
NIC	Newly Industrialised Country
NPC	National People's Congress
OECD	Organisation for Economic Co-operation and Development
PCT	Patent Co-operation Treaty
POE	Privately Owned Enterprise
PRB	Patent Re-examination Board
PRC	People's Republic of China
PWL	Priority Watch List
R&D	Research and Development
RMB	Renminbi (Chinese Currency)
RPSA	Rationale Problem-Solving Approach
SAIC	State Administration for Industry and Commerce
SCA	State Copyrights Administration
SDA	State Drug Administration
SIPO	State Intellectual Property Office
SOE	State-Owned Enterprise
SWOT	Strengths, Weaknesses, Opportunities and Threats
TO	Trademark Office
TRAB	Trademark Review and Adjudication Board
TRIPS	Trade-related Aspects of Intellectual Property Rights
UNCTAD	United Nations Conference on Trade and Development
USITC	United States International Trade Commission
USTR	United States Trade Representative
WFOE	Wholly Foreign-Owned Enterprise
WIPO	World Intellectual Property Organisation
WTO	World Trade Organisation
ZYQ	Zhu Ye Qing (Green Bamboo Leaves)

Introduction

For thousands of years, outsiders have regarded China as a xenophobic country. China's external relationships have been characterised by periods of imperialism and economic invasion. However, the stereotypes are changing. China has had an open economy since 1979. Now, the encouragement of foreign direct investment (FDI) and international technology transfer (ITT) lies at the heart of the economic relations between foreign countries and China. The international flows of capital, information and technology facilitate the economic growth of China and the reach of multinational enterprises (MNEs).

The boom in FDI and ITT has brought intellectual property rights (IPRs) to the forefront of the economic development in China. While a historical review shows that the germination of the concept of IPRs in China goes back more than 100 years, in reality no effective system of intellectual property protection (IPP) existed until very recent times. IPP is the key to providing investors and technology owners with a secure environment, and thereby to attracting capital and technology. In order to promote the flows of foreign capital and technology, therefore, China promulgated a raft of laws and regulations relating to IPRs in just a single decade running from the early 1980s to the early 1990s. Administration and judicial enforcement relating to intellectual property (IP) were also established in the 1980s. In a word, an IP structure has been systematically set up in a hurry in order to meet the needs of economic development.

After almost 20 years of experience of this system, the merits and drawbacks have become apparent and specific. This is not only reflected in the issues of legislation, administration and enforcement, but also concerns the nature and form of Sino-foreign IP co-operation. The rationale for the present work was the important need for a systematic study of the IP system from a corporate perspective.

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Objectives of the Book

The book studies IP empirically from the standpoint of the “external context” of corporate management.¹ The objectives of the studies are three-fold. Firstly, it is to evaluate the problems that MNEs from the UK and USA have encountered in IP flows from their countries to different companies in China. Secondly, the causes of the problems will also be studied. Thirdly, the study is to endeavour to provide suggestions for avoiding future problems. Specifically, at the end of the study, the author should be able to answer the four questions below.

- (1) What problems have the UK and US MNEs encountered during the IP inflows?

Firms and individuals are the smallest units involved in executing IPP laws. How they react to the current IP law and what problems they encounter in the execution of IP law represent IP practices in China. The related questions can only be answered through fieldwork in such companies.

- (2) What are the causes of these problems?

It seems important to trace the sources of these problems. The author believes that there may be historical, managerial, valuation gap and legislative reasons for their existence. Here, four hypotheses about the major causes of the problems are given.

Historical Reasons. There might be historical causes, relating to culture, religion and ethics, etc. The historical study in Chapter 1 clearly demonstrated that China had, and continues to have, a deep-rooted culture, affecting the existence of IP during its long history. Culture has also exerted a massive influence on the formation of the few IP regulations. Thus, it is inevitable to see its effect on the development of the new IP system.

Management Issues. IP management has only gained significance in China in recent years, with the increasing permeation of Western ideas. There remains a great gulf between Chinese and foreign management, thus, when IPP related problems occur, management can also be a cause.

Valuation Issues. The third hypothesised reason can be valuation gaps. IP valuation only gained full attention in China in the early 1990s (Zheng

¹ The external context means the external atmosphere of a company that drives changes in business. It includes short-term elements, such as price changes, and long-term elements, such as technological forces and the socio-economic environment (Sullivan 1999: 136).

1998: 186–187). Therefore, China has limited experience in IP valuation. As a result, its valuation tends to be different from the ones made by foreign investors and technology transferors. For example, a company in Zhejiang Province transferred its “Tong Bao” trademark together with 19 patents at only RMB 10 million yuan. Even worse, a manufacturing company transferred its trademark with zero value (*op cit*).

Legal Issues. The last reason may be traced to legal issues. As already described, the Chinese legal system has witnessed dramatic and fundamental changes in less than 20 years. However, there is still a divergence between Chinese IP laws and international IPRs. Moreover, the problems of the judicial power and administrative procedures have not been examined in practice from a management point of view. Apart from the reasons listed above, there might be other causes of problems in different companies. These will also be reported at the end of the discussion of the field research.

- (3) How have companies resolved the problems?
How have different MNEs attempted to solve their problems? The outcomes of this process are assumed as being either divergent or convergent, depending on whether in practice the parties move towards a compromise agreement or whether they move towards litigation.
- (4) What are the experiences and lessons from the surveyed companies?
In addition to establishing the nature of the problems, causes and possible solutions, the book will also strive to find out the experiences and lessons the surveyed companies have accumulated in dealing with IP problems in their businesses.

Rationale for the Study

Briefly, there are four underlying principles that inform the current study.

- (1) Previous systematic studies create the need for the current study. This scarcity of information is reflected in three areas. Firstly, problems relating to IP flows from a corporate perspective is almost a blank spot in the early studies; Secondly, studies on the external relations between MNEs and other companies with respect to IP are very limited; and finally, there is little empirical research on corporate IPRs relating to China. These blank spots form the fundamental motivation for the current study.
- (2) Companies should have their say about the current IP environment. Most people believe that IPP in China is not adequate and effective enough to

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sufficiently safeguard the interests of technology owners. After almost two decades in which a raft of IP laws has been introduced, has the situation been improved? Current studies not only inform us about the IP environment in China but also make more people aware of the significance of IPP.

- (3) The study will reflect the relations between MNEs and companies in China in the area of IP management, which can enhance the knowledge base provided by existing studies of MNEs that often have a quite different focus. There have been extensive studies from a corporate perspective concerning FDI in China, but research from an IP perspective is very limited.
- (4) Finally, the current study hopes to reduce cultural biases. With regard to research on China, Western researchers tend to be critical, while Chinese scholars tend to be instructive and descriptive, which consequently results in cultural biases. The present researcher hopes to avoid a bias from any particular culture by combining Sino-foreign literature and conducting empirical research with Sino-foreign interviewees.

Sources of Information and Methods

Information on the early studies of IP and related issues in this book is obtained from desk research, for which there are three main sources of information.

- *Computer Databases:* Internet databases, such as *Bids*, *Mimas*, *Yahoo*, *Inforbid*, *Science Direct* and *Sohu*, and university databases, such as *Julias* have been used to search a large number of journals and other sources of information relating to the research.
- *Published Literature:* The author has searched all the available books and journals in the main libraries in Manchester, such as *Joule Library*, *John Rylands*, and the *Central Manchester Library*. Inter-library loans have also been used to access relevant information unavailable within Manchester.
- *External Sources:* A number of journals and books have been obtained from China with the assistance of friends and relatives.

The empirical study is twofold. In relation to research design and fieldwork, the research combines various forms of questionnaires, interviews and case studies. The questionnaire is designed on a bi-lingual basis in both Chinese and English. Different types of interviews have been used for the specific purposes of the studies, including postal questionnaires, telephone interviews, e-mail

interviews and personal interviews. Postal questionnaire responses formed the main source of information for the preliminary studies.

In total, 183 questionnaires have been distributed, including 63 questionnaires to UK and US FIEs in China, 63 MNEs in the USA and 57 MNEs in the UK — with two follow-up questionnaires to non-respondents. Most target companies for questionnaire distribution were sampled and screened from the *Top 500 FIEs in China*, *Fortune 500* and *Times 100*. All the companies are either Foreign Invested Enterprises (FIEs) in China from the UK and US or MNEs from the UK and US involving in manufacturing activities in China. Telephone and e-mail interviews were used as supplementary tools to the mail interviews, for the purpose of clarifying and specifying the questionnaire responses. These two types of interviews, at least in the later stages, also serve to provide in-depth studies of particular companies with the support of case studies.²

As a result, over 30 telephone interviews have been conducted, mainly in the UK because of the locational advantage. Personal interviews have been carried out in 18 companies, including ten in China and eight in the UK. More than 100 e-mails have been exchanged with companies from the three countries. A total of 51 companies responded to the questionnaires, accounting for 28% of the total questionnaire distribution. The 51 companies include 23 FIEs in China, 18 and 10 MNEs in the UK and US respectively. All these companies were involved with IP flows into China. The response rate is low, but not out of line with many other surveys in social science, despite the quite sensitive nature of the subject matter.

The other aspect of the empirical research is the analysis of the interview data, which is based on a problem-cause-solution model (Figure 1). Cases are normally analysed in a manner that supplements and adds insights to the questionnaire analysis, but some cases are discussed in their entirety.

Framework for the Present Study

The framework of the current research is summarised in Figure 2. The central part in bold type represents the three important objectives that the current research intends to achieve. The left side of Figure 2 indicates the three main

² In-depth analysis in this book refers to specific studies on the problems, their causes and solutions in intellectual property flows. It is also called in-depth study here. The analysis is based on questionnaires, telephone interviews, e-mail contacts, and personal interviews with the support of a number of case studies.

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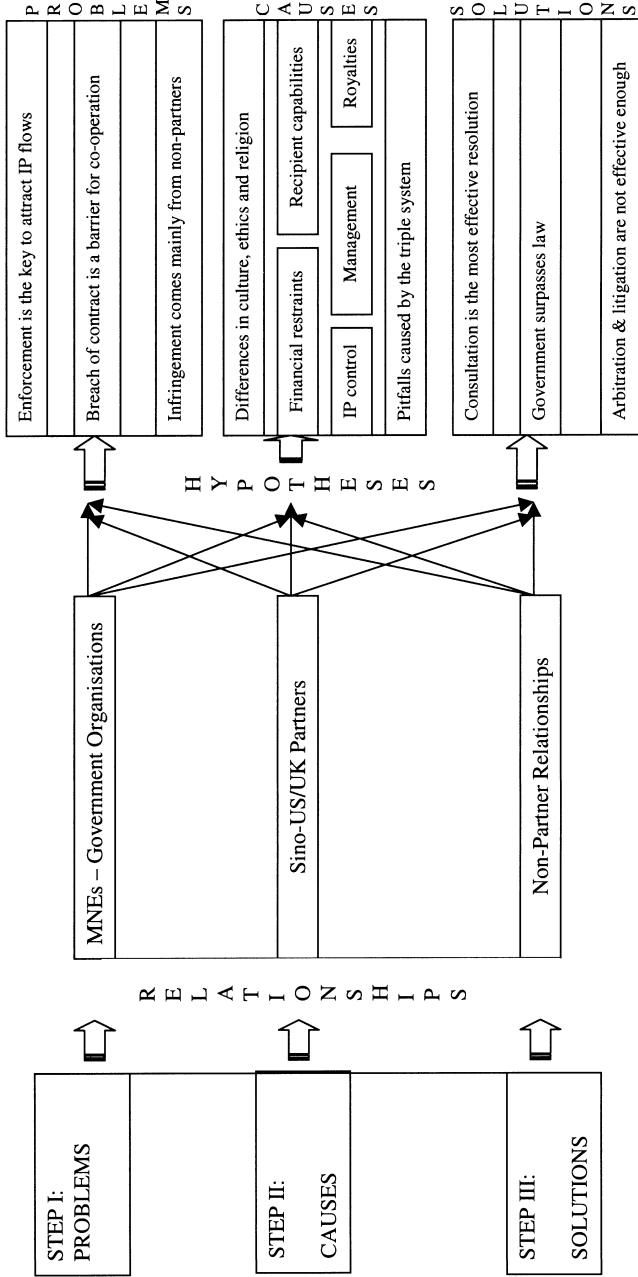


Figure 1: Model for the current study.

Source: Created by the author for the current study.

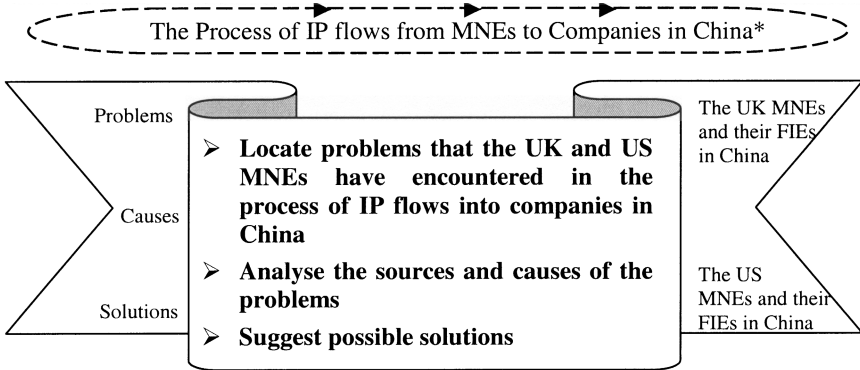


Figure 2: Dissection of objectives of the current research.

Note: The figure only indicates unidirectional flows because the present study focuses on the flows into China and not the flows from China.

IP issues that the present study explores, i.e. problems, causes and solutions. On the right side, the figure shows the kind of companies the research targets at, including relevant FIEs in China. At the top, the arrows represent the one-way IP flow from foreign countries to China; the discontinuous lines represent the flow of IP.

Multinational Enterprises from the UK and US

MNEs refer to large business enterprises operating across borders, with production, sales and/or other operations taking place in different countries. Thus, MNEs are concerned with the cost-effectiveness and profitability of these various operations in each of these countries, as well as globally. MNEs may sustain a competitive edge over rivals in a wide variety of ways, including their patented technologies or their recognised and respected brands of products. This also puts them in a position of being able to provide advanced technologies and know-how in the form of IP on a commercial basis (Pass & Lowes 1993: 365).

The present research has targeted the UK and US MNEs, and their FIEs in China as a source of empirical research for a number of reasons.

- (1) The US is a leader in the world in many areas of technology, and plays a crucial role in enhancing technological progress in China. The UK, as one of the EU countries with extensive business activities in China, is generally

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a technology follower of the US, but operating at a higher level of technology than Chinese domestic firms.

- (2) In terms of IP inflows into China, both the US and UK have played a very significant role (see Table 1). Details of IP flows broken down by country of origin are discussed in Chapter 5.
- (3) The USA and UK bear a resemblance in culture and share the same language making it easier and more convenient for the author to do the necessary empirical work and to communicate with interviewees.
- (4) The choice of a stark cultural contrast is also an important point. Japan was not chosen, although it is one of the top countries with regard to IP flows into China, because it shares a very similar culture with China. In contrast, the US and UK represent the other extreme of culture *vis-à-vis* China. Therefore, MNEs from those two countries are likely to face greater problems in dealing with IP flows into China.
- (5) Additionally, IP issues have been a major source of conflict between the UK and USA on the one hand, and China on the other. There have certainly been very important and long-standing problems between the US and China in this respect, and IP issues still create a problem in their relations (see details in Chapter 7). In addition, the US is the main advocate in promoting the development of IP in developing countries. The EU, including the UK, also generally takes the US line in this respect. Thus, the UK and US in particular tend to be more sensitive to IP issues than many other countries.

UK and US Invested Enterprises in China

The units of observation for the research are the UK and US MNEs with operations in China, and the associated FIEs in China. The US and UK MNEs are contacted separately from the FIEs in China. Obviously, it is impossible to cover all the FDI firms in China. Thus, the focus is on manufacturing-related FIEs from the US and UK. There will be a more specific explanation of the precise choice of companies when we discuss the issue of sampling. The reason for choosing these FIEs is that, with the development of an open economy, China has become a very competitive market and, in this fiercely competitive environment, the higher the technology — the greater the need for IPP for the reasons we discussed in subsequent chapters.

The research considers the UK, US and Chinese actors. On the Chinese side, the location of FIEs is geographically very fragmented. The main reasons for avoiding a geographical focus within China are firstly related to

Table 1: IP Flows into China from the UK and US (% of all IP flows).

Form of IP	US (%)	Rank	UK (%)	Rank	Other Countries*
Patent	29.04	2	3.41	7	1. Japan 3. Germany 4. France 5. Netherlands 6. Switzerland
Industrial designs	9.86	2	1.79	7	1. Japan 3. Germany 4. Switzerland and Korea 5. Netherlands 6. France
Trademark	18.95	1	5.19	7	2. Japan 3. Germany 4. France 5. Italy 6. Switzerland

* Note: numbers indicate the ranking for the country in terms of IP inflow into China.

Source: Based on Bosworth & Yang (2000: 470).

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high-technologies. FIEs can be found across different parts of the country, even though the majority of them are concentrated in the coastal areas of China. Secondly, it is to highlight geographical differences between the three main areas of China — the Western, Central and Eastern regions. There are important current differences in economic development, with the Eastern region far more advanced. The government has recently realised the problems posed by the unbalanced development and is striving to narrow the gap. While most previous research has concentrated on the coastal area, the present study attempts to consider a more complete picture regarding ITT and IPRs across China. Finally, it is to enable a comparison to be undertaken of any contrasting geographical differences in ITT or IPRs.

Process of Intellectual Property Inflows

One pre-condition to identifying the problems that MNEs have encountered is the need for an understanding of the process underlying IP flows from the UK and US MNEs to companies in China. This process is illustrated in a flowchart — Figure 3. The chart details three major processes in IP flows. The approval process is related to the procedure for IP applications and grants or registrations. Problems could strike at this stage. They could be related to government organisations or other companies, who may object to the patent claim or the look of the trademark or industrial design. It should be noted here that government organisations refer not only IP administrative offices but also other ministerial or provincial government organisations depending on the line of business of the MNEs.

The other two major processes are “Exploitation Process I” and “Exploitation Process II”. They are both related to IP flows into companies, but the difference lies in the timing of the associated IP protection. “Exploitation I” seeks IPP first, then gradually work towards establishing a co-operative partnership. In the case of “Exploitation Process II”, MNEs establish the partnership first, then secure IPP when companies are in operation. This is normal because most MNEs carry out more than one IP flow to their operations abroad. Apparently, the conflicts that arise during these two processes are mainly between companies. The companies here refer mainly to the six different types of enterprises in China, including state-owned enterprises (SOEs), collectively owned enterprises (COEs), privately owned enterprises (POEs), wholly foreign owned enterprises (WFOEs), equity joint ventures (EJVs), and contractual joint ventures (CJVs). Details of these company forms were reported in Chapter 6.

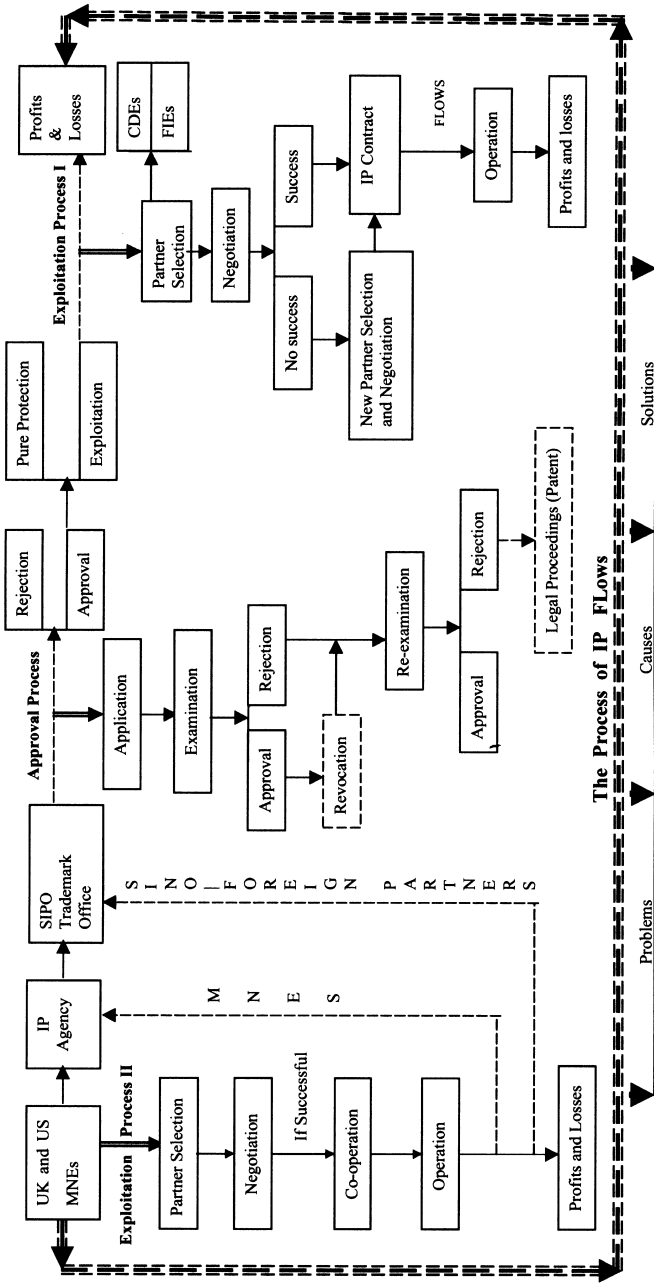


Figure 3: Process of IP flows from the UK and US MNEs to companies in China.

Source: Created by Yang based on the understanding of Chinese IP laws and FDI situation.

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Model of the Current Study

After having outlined the framework adopted in the book, and justified the choice of the UK and US MNEs in the process of IP flows, it is then not difficult to understand the model established in Figure 1 for the book. The framework shows the three steps that will be taken to conduct the empirical research. Each step comprises a number of sub-steps, which will be briefly explained below.

The aim of Step I is to establish the problems that arise in the process of IP flows. The literature survey shows that MNEs in China may associate with government organisations and co-operative partners, such as joint ventures and SOEs, but also with non-partner organisations because of competition and infringement. Having established the parties involved, these interrelationships can be explored for evidence of problems. Based on the literature studies, three major hypotheses are apparent at this stage shown in Figure 1.

Step II focuses on isolating the causes of the problems. These causes stem from the three different relationships that MNEs entered into. The causes of difficulties in dealing with government organisations relate to the triple system we analysed in the literature, i.e. legislation, administration and enforcement. Some causes are hypothesised as being the result of social-cultural factors. Other causes are associated with the collaborative partners, such as problems of management quality or style, the recipient's technological capabilities, etc.

Step III concerns the solutions for the problems. Based on the general solution process, as set out in the Chinese *Economic Contract Law*, there are four principal ways to resolve problems, i.e. consultation, mediation, arbitration and litigation (see details in Chapter 4). At the present time, it is far from clear how the four methods function as an intermeshing framework of laws in the process of resolving IP disputes. One hypothesis would be that consultation and mediation would be the most effective solutions, as they are consistent with Chinese culture and, historically, have been the dominant routes. Thus, it might be argued that, currently, arbitration and litigation are not sufficiently effective enough in China. These hypotheses are based on the fact that China only established its legal system of IPP about two decades ago and, in both theory and practice, China has not had a great deal of experience in operating the new mechanisms.³ Moreover, culture and history indicate very clearly that government has always possessed powers above the law, although

³ This in itself may be a source of conflict as Western firms have little experience of consultation, but considerable experience of litigation.

this may have been influenced by 20-year practice in IP law. Thus, a residual hypothesis concerns whether government power still over-rides the law.

About the Book

The book is composed of ten chapters containing studies of related IP history, previous work on the area, and the current empirical survey (see a flowchart of the book from Figure 4). Major findings will be discussed in the conclusions at the end of the book.

Chapter 1 provides a historical overview chronologically of the issues relating to IP. They include the germination of IPRs in China during the late 19th century, the birth of the first patent and copyright laws in the early 20th century, the reward system from the 1950s to the 1970s and, in more detail, the establishment and improvement of the IP system from the early 1980s. Culture and ITT are also dealt with as part of the historical description. All these issues form a basic and important background that aids an understanding of the purposes and foci of the book.

Chapter 2 studies a number of the theoretical aspects of IPRs as a subject. It clarifies the meaning of IP by providing a discussion of the relevant definitions, comparing different IP forms, and contrasting similar concepts. It then portrays IPRs as a subject, in order to highlight the complexity of both its core and peripheral areas. Next, it illustrates the significance of the corporate management of IPRs. Finally, the chapter studies the existing corporate management strategies regarding IP flows.

Chapter 3 briefly describes the function of IPRs in the international arena. The purpose to do so is to demonstrate the important influence of international organisations on IP, including their significant roles in improving the current IP system in China.

Chapter 4 focuses on the introduction of the current IP system in China. It describes the current IP system as a triple system with a two-tier legislation, powerful IP administration and a very young enforcement regime.

Chapter 5 substantiates that there has been a dynamic growth of IP activities both domestically and from foreign countries under the current IP system. Major developed countries are proved to be outstandingly dominant to provide different IP in China.

Chapter 6 explains the structure of firms and technological situation in China, including domestic companies and foreign-invested enterprises across different

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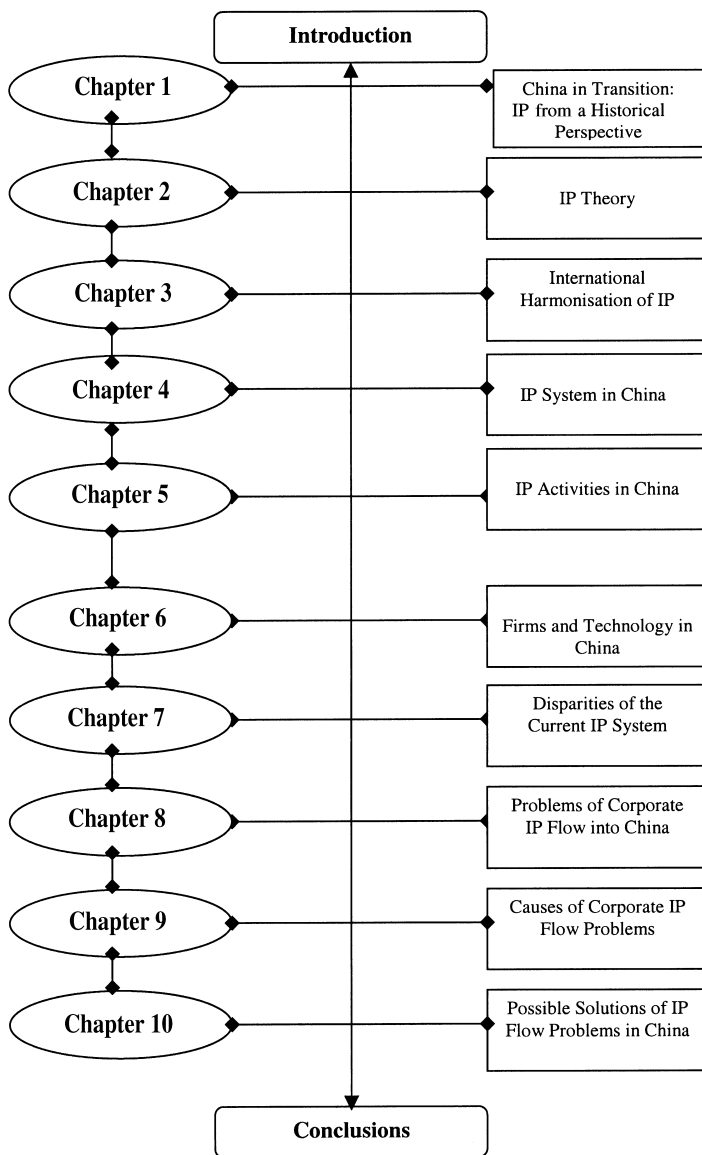


Figure 4: Flowchart of the current study.

sectors, which are mostly the recipients of IP flows; the science and technology system, its reform and technological gaps between domestic and foreign enterprises; and the technological competition in China.

Chapter 7 is to critically review the current IP system and reveal the disparities existing in legislation, administration and enforcement of IP in China.

Chapter 8 detects problems that MNEs have encountered in the process of IP flows from their countries — UK and USA into different companies in China.

Chapter 9 explains the nature and scale of all these problems encountered in China.

Chapter 10 outlines the ways in which these problems have been, or should be, resolved. All three chapters follow the same structure in their analysis: first, the general findings from the responses to the questionnaire are revealed, and then related in-depth analysis is conducted, with representative case studies.

At the end of the book — conclusions discuss the main findings, contribution and limitations, and the experiences and lessons that multinational companies can learn to achieve success in transferring technologies and protecting intellectual property.

Chapter 1

Intellectual Property from a Historical Perspective

Introduction

The purpose of this chapter is to provide a historical overview of the issues relating to the introduction of IPP in China. The laws and the issues surrounding their introduction are reviewed chronologically from a Chinese historical perspective. Issues of culture and the government's perceived need for international technology transfer are important to understanding the recent introduction of the raft of new IP laws and, thereby, the purpose and focus of the present study.

This chapter therefore:

- traces the germination of IPRs in the late 19th century when the Westernisation Movement was at its height;
- examines the first patent and copyright laws in the first half of the 20th century when the Nationalists were in power in China;
- describes the reward system of the 1960s, when the Communist Chairman Mao was in power and when China witnessed a period with almost no IPP;
- discusses the revolutionary rather than evolutionary establishment of a systematic IP system from the 1980s after Deng Xiaoping started the reforms;
- depicts the improvements of IPRs in the early 1990s with the revision and implementation of a further raft of IPRs legislation.

1.1. Germination of Intellectual Property (Pre-1911)

The origins of IPP in China can be traced back to the Westernisation Movement in the latter half of the 19th century (Liu 1996: 169). The Westernisation

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Movement refers to the activity in the Qing Dynasty to introduce technologies and techniques from foreign countries into China. This activity involved the military, culture, politics and foreign affairs, as the economy pushed forward the historical transformation from manual work to mechanical times (Du 1996: 12). As a result, many enterprises were established, and a large number of technicians and skilled workers were trained. In order for this process to evolve, additional incentives and motivation for inventions and creations became necessary in order to provide the basis for modern industries. From 1882, therefore, Emperor Guangxu approved a ten-year protection of industrial techniques for some manufacturers (Liu 1996: 169). The protection covered mechanised techniques in weaving (1882), papermaking (1889), winemaking (1895) and yarn spinning (1895) (*op cit*: 169–170).

The first regulation relating to technology was thus enacted in 1898, entitled *Reward Regulations on the Development of Technology*¹ (Liu 1996: 170; Zheng 1999: 10). However, it should not be called the first patent law in China because:

- (i) this regulation was never effective (Zheng 1999: 10);
- (ii) there was no concept of invention and no process of examination; and
- (iii) the whole society was encouraged to use inventions and creations.

Inventors and creators felt honoured to share their achievements with other people free of charge. Apart from the regulations on inventions and creations, the first trademark regulation was announced in the Qing Dynasty in 1904 — *Provisional Regulations on Trademark Registration*² (Zheng 1997: 242). Ironically, it was invalidated immediately after its announcement (*op cit*).

Nobody in traditional Chinese culture prepared the way for the protection of IP, particularly that relating to industrial advance. In fact, traditional Chinese social ideology valued agriculture highly, and the development of industry and commerce was despised in China. This ideology had dominated China from the time of the first Emperor³ up until the late 19th century (Liu 1996: 161). Some intellectual people opposed the old ideology and stood for reforms, but their influence and inspiration were so weak that they were unable to provide sufficient impetus to bring about reforms. Inevitably, this ideology restrained the progress of science and technology and inhibited the development of an industrial, commodity-based economy (*op cit*: 162). As a consequence, rulers

¹ “Zhen Xing Gong Yi Ji Jiang Zhang Cheng” in Chinese.

² “Shang Biao Zhu Ce Shi Ban Zhang Cheng” in Chinese.

³ Qin Shihuang was the first emperor in China. The head of his administration, Shang Yang (390 B.C.–338 B.C.) alleged that agriculture was the core of a country.

at different times could not see the need for science and technology to generate social and economic progress. Thus, despite the fact that China was an innovative country and was for a time more advanced than most Western countries, rules and regulations to protect new inventions and creations failed to emerge. For example, the production of iron in China in the 11th century reached 150,000 metric tons, which was five to six times as much as the production in European countries (Needham 1954). China was also a leading country in some other areas, such as astronomy, mathematics, medicine and nautical navigation (*op cit*). Thus, Needham argued that many of the great inventions were first made in China but developed in the West, leading eventually to the Industrial Revolution (*op cit*).

There is also a theoretical underpinning for the absence of an IP system in China. Based on Lin's economic theory of systematic change quoted in Liu (1996: 168), there were two types of systematic change — induced and compelled. Induced systematic change means that the change is enforced from top to bottom; compelled systematic change means the change is implemented from bottom to top. Under the rules of different emperors in China until 1911, there were no driving forces from the top that would lead to decisive steps towards IPP; meanwhile, the external force from reformers was too weak to push forward any social changes. Nevertheless, the need for IPP gained the attention of the Qing Dynasty in the late 19th century at the time of the Westernisation Movement.

The most dramatic event during this period was the promulgation of the copyright law — *Law on Copyrights of Qin Dynasty*⁴ in 1910. This broke the blankness of IP history in China, although it occurred 200 years after the first copyright statute in England — *The Statute of Anne* in 1709 (WIPO 1997b: 24). The birth of the first IP law is a typical example of compelled systematic change. For instance, in 1906, there were 22 well-known publishing houses (Song & Li 1991: 187). In 1912, there were over 500 news agencies (*op cit*: 228). The earliest recorded copyright was awarded in 1899 when the famous author, Yan Fu, obtained a 20-year copyright from his publisher — the Shang Wu Publishing House (*op cit*: 244–245). With the boom in the publishing industry, the relationships amongst publishers and authors became complex. The external need and associated pressure for stipulations on copyrights attracted the attention of the then Qing Dynasty. Therefore, the international copyright convention — Berne Convention was first translated in 1906 (Liu 1996: 171). Moreover, China attended the Berne Convention meeting in 1908

⁴ “Da Qing Zhu Zuo Quan Lu” in Chinese.

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and, in 1910, the first copyright law based on the Berne Convention was promulgated (*op cit*).

1.2. First Patent Law in China (1911–1949)

The Kuomintang (KMT — the Nationalists) as opposed to the Communist Party from 1921, controlled China between 1911 and 1949. In 1912, the *Temporary Statute on Technology Reward* was announced. It heralded an ideological change in China towards the pursuit of country wealth and systematic change. However, the most notable event of this period was the legislation of the first patent law in Chinese history, which occurred in May 1944 (Liu 1996: 171).⁵ The formal promulgation of the first patent law was the result of five revisions of the previous regulations, including the elimination of the stipulation in forbidding foreigners from applying for patents (*op cit*).

Regulations specifically stipulating the registration and administration of trademarks were introduced in 1923. From 1930 to 1937, the KMT constantly revised the regulations. Up to 1948, there were 50,000 trademark registrations, which were dominated by foreign registrations. There was virtually no protection for local trademarks when a dispute happened between foreign and local trademark owners. Foreigners were immune from the court trials in China (Panitchpakdi & Clifford 2002: 10).

Over this period, the copyright law, based on the first copyright law pronounced at the end of the Qing Dynasty, was also modified three times (Liu: 172). However, the uncertainty, from 1912 to 1944, seriously affected the development of IPRs in China. During this period, there had been constant civil wars between the KMT and Communists, which were then followed by the Second World War. As a consequence, IP development was certainly constrained. For example, only 645 patents were approved before 1945 (*op cit*: 171).

The limited development of IPRs can also be attributed to the influence of traditional ethics and culture in China. We have already described the adverse effect on the formation of the IP system of the traditional ideology of preferring agriculture to industry and commerce, and the weak force from both top and

⁵ The first patents in China in 1882 were over 400 years later than the first patent in England, which is argued to date back to the 20-year monopoly for the manufacture of coloured glass given to John of Utyman in 1449. The first patent law in China in 1944 was over 300 years later than the first patent law in England — the 1624 Statute of Monopolies (Discussion with Professor D. Vaver at the Manchester School of Management, UMIST, May 17th, 2001). The first systematic records about patents in England date from 1617 (Bosworth & Yang 2000: 455).

bottom for systematic change. The constrained development can be traced to a large extent to the effect of traditional ethics. In history, Confucianism, an ethical code rather than a religion guiding people's behaviour, had its root between the six and third century B.C. (Chiu & Fa 1994: 1–2). It dominated Chinese thought until the middle of the 20th century. Confucianism emphasises the hierarchical relationships in society — “government by men” (*op cit*). In other words, women should respect men; the young should respect the elderly; sub-ordinates should respect their super-ordinates. People who work with their brains should rule people who work with their labour force. Confucius' philosophical impact on IPP is a reflection of this cultural tradition. He believed that people should learn by copying and imitation (Forstner 1995: 131). Confucius himself, one of the world's greatest thinkers, claimed that he “never created or wrote anything original.” (Reid 1995: 62). Thus, Confucianism was totally against the philosophy of IP, which prevents people from using the original work free of charge.

1.3. Reward System (1949–1978)

After the Communist regime was established, a limited number of inventions and copyrights were protected and administered by the government. In October 1949, the Communists under Mao Tse-dong took over China and founded the People's Republic of China (PRC). Their opponents, the KMT under Chiang Kai-Shek, retreated to Taiwan and established the Republic of China. Hence, the socialist government started with a clean slate. It eliminated all the previous regulations and laws, including the first patent law and copyright law. In this period, the government introduced a reward system for inventions under the auspices of official documents. It was a period of extreme economic planning. This period can further be analysed by referring to the years 1949 to 1957 and 1958 to 1978.

From 1949 to 1957, IP activities were encouraged by a reward system. In 1950, China issued the *Provisional Regulations on the Protection of Invention Rights and Patent Rights*⁶ (Liu 1996: 174). In 1954, it announced the *Provisional Implementation Regulations of Rewards on Industrial Inventions, Innovation and Rationalisation Proposals*⁷ (*op cit*). The system served the purpose of implementing the transition from private ownership to full national

⁶ “Bao Zhang Fa Ming Quan Yu Zhuan Li Quan Zan Xing Tiao Li” in Chinese.

⁷ “You Guan Sheng Chan De Fa Ming, Ji Shu Gai Jin Ji He Li Hua Jian Yi De Jian Li Zan Xing Tiao Li” in Chinese.

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control. Inventors, as applicants to the reward system, could obtain bonuses, medals, certificates and even honorary degrees (*op cit*). The ownership of inventions was set at between three and 15 years (*op cit*). However, there were only nine awards during this period (*op cit*). Regarding trademarks, in 1950, the State Council announced the first statute under the Communist regime — *Provisional Statute on Trademark Registration*⁸ and its implementation statute (Zheng 1997: 244). The registration period was 20 years, with indefinite renewal. However, there were no stipulations on how the protection of trademarks was to be enforced (*op cit*).

In this period, authors' copyrights were also regulated under the reward system. From 1950, some government documents were issued indicating that authors could enjoy their copyrights without infringement from others. However, the regulations were more for the benefit of the activities of the publishing houses, which belonged to the government. Two documents detailed the copyright system at this period, the *Contract of Work Publication* and the *Payment Methods for Authors' Remuneration*.⁹ From 1957, the already limited remuneration to authors was lowered even further (Liu 1996: 175).

The IP system ran counter to a planned economy under the theories of Marxism, Leninism and Maoism (*op cit*: 173–174). It confirmed private ownership; Marxism, Leninism and Maoism advocated public ownership — in other words, individual interests must be subordinate to social welfare, and the national interest is paramount. When the PRC was established in 1949, China underwent a “socialist transformation” — nationalisation. By 1957, all the privately owned land and enterprises were nationalised. Under such circumstances, IP laws could not exist. In addition, during this period, China blindly copied many policies from the former Soviet Union. The reward system was a typical example where China followed the Soviet model.

From 1958 to 1978, China was highly controlled by the government. It finished the “socialist transformation.” In 1963, the government promulgated a new regulation — *Regulation on Invention Reward*. The ideal of socialist public ownership was reflected in the regulation. For example, Article 23 stipulated: “All inventions are national assets, any individuals and organisations are not allowed to apply for a monopoly. All the organisations across the country, including collectively owned enterprises can use them.” According to this regulation, inventors could not apply for patent rights, but just obtained a lump sum bonus for their ideas and creations. There were no certificates, no medals, and no honorary degrees. From 1966 onward, during the Cultural

⁸ “Shang Biao Zhu Ce Zhan Xing Tiao Li” in Chinese.

⁹ “Zuo Pin Chu Ban He Tong” and “Gao Chou Zhi Fu Ban Fa” in Chinese.

Revolution, even the system of lump sum rewards was abolished. Therefore, the policy in this period did not motivate inventive or innovative activities. Consequently, scientific and technological achievement was at a very low level. For example, between 1966 and 1978, there were only 7,700 rewards for scientific and technological achievement (Wang 1993: 34). Regarding trademarks, in 1963, the law of *Regulations on Trademark Administration and its Implementation*¹⁰ was promulgated for the purpose of encouraging quality products for the planned economy. However, there were no stipulations on trademark protection, therefore, trademark administration as such paralysed during the Cultural Revolution (Zheng 1997: 244).

The government's monopoly over IPRs during this period had four main adverse effects. Firstly, there were no incentives for inventions and creations. Although this system could reward investors and innovators with a lump sum bonus (before 1966), the sum was not large enough to stimulate technological progress and new technologies. Secondly, political guidance of the time did not encourage people to respect knowledge. Knowledge and education were not important to many people, especially during the Cultural Revolution. Technology, as a result, was also largely meaningless. Thirdly, the closed economy created a paucity of communication with the outside world. A policy of self-sufficiency limited technological exchange and information flows. Finally, scientists and intellectual people became targets to strike at and were considered "evil forces" during the Cultural Revolution. Consequently, the research and development (R&D) system almost paralysed. Under such circumstances, any forces working towards the development of an IP system became immobilised.

These adverse results were the consequence of legalism, central planning and anti-elitism in China. Legalism here means that rulers are the highest authority. The state establishes the laws without the participation of any individuals. Meanwhile, the state guarantees the social order and human behaviour (O'Connor & Lowe 1996: 76). Legalism or a centralised, hierarchical system has had its existence since the first Emperor came to power. This system has created a multi-layered hierarchy, which affected the performance of different governments and resulted in a high level of bureaucracy in China. In turn, the various governments had a powerful influence on all aspects of economic and social activities in China. Over thousands of years, this system of centralised legalism helped to shape China and still remains a part of Chinese culture, which is reflected as follows.

¹⁰ "Shang Biao Guan Li Gui Zhang Yu Ju Ti Shi Shi Xi Ze" in Chinese.

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- The existence of relationology,¹¹ viz. personal relationships or personal networks. Close-knit family ties, business networks and various other relations have formed a vital net around the whole country to help smooth away barriers. This philosophy goes well with Confucianism, as it emphasises harmonious human relationships.
- The existence of bureaucracy — the traits of Chinese bureaucracy can be briefly stated as no errors, following orders from the top, no creativity and the spreading of responsibility. Therefore, the attitude of people at the lower levels of society is to rely on the government, and to do whatever government says. The slogan for this attitude was, “making no mistakes is a good comrade”. There was a public saying, “We contact government when problems strike”. This kind of thought, to some extent, limited people’s creativity. Certainly, if one did not do anything, but relied completely on the government, he or she would not make mistakes. This tendency can be seen from different negotiation teams in China. For example, in international business negotiations, Chinese teams are usually much larger than the foreign ones. Foreign negotiators may not understand why there are so many people. The reason is to spread responsibility.
- The law is the responsibility of the Chinese government. Governments in history were the best judges. Law had never been particularly important before 1978. For instance, there were only institutional law, marriage law and civil law in China from 1949 to 1978. The *Economic Law* and laws relating to foreign business matters were only introduced for the first time from 1979. Prior to that, social and economic behaviour was guided by government regulations. Finally, as a consequence of the lack of importance of the law, most ordinary people are not familiar with legal concepts, and the importance of lawyers has only grown since the start of the open economy.

The philosophy of legalism appeared at the same period as Confucianism, with almost the same influence throughout Chinese history. Both philosophies worship the rulers’ power. At the centre, the difference between them is that Confucianism advocates moral education to human behaviour while legalism emphasises the function of state power. In short, both philosophies have exerted a strong influence on the formation of ideology, including that relating to IP. The impact of the philosophy of legalism was thoroughly revealed during Mao’s dominance. Therefore, there is a saying outside China that China is “governed by the people, and not by laws.” (Fei 1994: 28).

¹¹ Relationology is a word coined by the author. In Chinese, it means Guan Xi Xue. Some authors translate it into relation networks or it is simply called *Guanxi* based on the Chinese pronunciation.

These adverse results were the outcome of central planning under Mao's regime. The system of central planning in China was strongly influenced by the former Soviet Union. Two hypotheses underpin the concept of an efficient planned economy:

- (a) the cost of acquisition for information and advanced technology should be zero; and
- (b) the planners' capability is infinite (Liu 1996: 173).

These guidelines were not able to stand the test of time. This is because obtaining technologies does not have a zero cost, and there must be an incentive for generating new technologies, otherwise, the creators' costs cannot be recouped. Moreover, on reflection, the planners' capabilities are limited. Under these guidelines, it is not possible to encourage individuals to create new technologies. As a result, it is not surprising to see that IPP did not exist until later.

Finally, the adverse effect was also the result of anti-elitism. Mao's regime was guided by the philosophies of Marxism, Leninism and Maoism. The influence of Leninism occurred because China extensively copied from the former Soviet Union, which also advocated public ownership. Marxism is always opposed to the confrontation between individuals and society. Individuals are part of the society, therefore, individualism should be forbidden in the society. Marxism believes that confrontation disappears in a communist world. It therefore runs counter to the individualism associated with IP. Moreover, Maoism commends the same supposition that the individual's maximum benefit is brought about by the realisation of the benefit maximisation of society. Social benefit has a higher priority than individual interests (Liu 1996: 173). The above philosophies emphasise the importance of collectivism and elitism should not exist in such a regime. Thus, all three philosophies run counter to the emphasis in IPP on the role of the individual in generating a dynamic economy through the search for private gain.

1.4. Formation of an Intellectual Property System (1979–1990)

1.4.1. Dramatic Change in the Intellectual Property System

From 1979, China began a period of formation of systematic IPP. Here, the IP system refers to the systematic management of IP, which not only includes administration to examine and approve different forms of IP applications but

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also comprises legislative guidance and judicial protection on IP.¹² It has been argued that China's first encounter with IPR issues occurred when the Chinese government was negotiating the *Sino-USA High Energy Physics Agreement* and the *Sino-US Trade Agreement* in 1979 (Zheng 1996: 7). Negotiations between the two countries reached a stalemate because of differences over IPP. The US side strongly argued that IPP should be an integral part of any bilateral agreements on science and technology, and trade. The US President indicated that, in the absence of adequate protection, the representatives would not be permitted to sign the agreements. Equally, the Chinese representatives involved in the negotiations were extremely reluctant to sign agreements, which included clauses that they had little knowledge or no experience of (*op cit*). Zheng describes this as the first "IPR fever" because China commenced its research in this area very intensively after these negotiations with the US.

Since then, China has made a revolutionary transformation with respect to IPRs from a country without any protection to the one with a broad and systematic system. The beginning of the change occurred when China became a member of the World Intellectual Property Organisation (WIPO) in 1980. Since the early 1980s, China has endeavoured to build a modern IP system, which can be seen from two areas where it has been heavily involved. Firstly, internationally, China has been very active in ratifying a series of world IP treaties and conventions. By 1990, China joined WIPO (1980), ratified the Paris Convention (1985) and the Madrid Agreement (1989), and became a signatory country for the Integrated Circuits Treaty (1989).

Secondly, domestically, China speeded up the formation of the IP system. This formation included the establishment of the Patent Office (PO), later renamed State IP Office (SIPO), Trademark Office (TO) and State Copyright Administration (SCA). It involved the restructuring of judicial organs for IPP. More importantly, the formation encompassed the promulgation of a wide range of IP laws, including the *Trademark Law* (1983), *Patent Law* (1985), *Copyright Law* (1990), and other IP-related laws and regulations in the field of technology imports and exports. The laws China promulgated and the specific treaties and conventions China ratified are chronologically listed in Appendix A and B (Bosworth & Yang 2000). By the mid-1990s, it could be argued that a systematic IPP framework was in place.

The establishment of the IP system brought about tremendous activity in China. On the first day when the *Patent Law* came into force, the PO received 3,455 applications for patents (State Council 1994: 12). By 1990, patent applications in China exceeded 55,000 with almost equal numbers of

¹² The definition is based on the author's understanding about the IP system in China.

applications from residents and non-residents (Bosworth & Yang 2000). Trademark applications reached over 300,000 with resident applications accounting for over 85%. The numbers of applications for industrial designs and utility models were 8,750 and 97,409 respectively (*op cit*).

1.4.2. Rationale for the Dramatic Changes

The rapid introduction of the IPP system serves China's national objectives. The establishment is the natural consequence of a number of influences and developments both within and outside of China (Bosworth & Yang 2000). On the one hand, this is attributed to China's desire to acquire advanced technology from developed countries and protect its own indigenous technology (*op cit*). However, without proper IPP, nobody would transfer technology into China. On the other hand, developed countries, particularly the US, have been very active in advocating the need for secure protection of IP, particularly in developing countries, such as China. Meanwhile, international organisations, such as WIPO and the World Trade Organisation (WTO) have also played an important facilitating role in enhancing the IPP system in China (*op cit*).

1.4.2.1. Internal pressure and the open door policy

Acquisition of foreign information and technology There is little doubt that the Chinese government eventually recognised the need to access new information and technology in order to improve its international competitiveness and, thereby, its rate of growth and development. Despite the absolute size of both the Chinese economy and population, it was, nevertheless, unable to generate high-level information and techniques at a rate necessary to meet the growing desire for development. The lessons of other countries that achieved rapid development, such as Singapore and Korea, illustrated quite vividly the contribution that technology transfer could make, particularly through FDI. The internal pressure for change implied not only a move away from Confucianism, but also from Marxism, Leninism and Maoism.

In December 1978, the Chinese government established a general policy of reform, involving opening the economy to the outside world — the so-called “Open Door Policy”. The encouragement and utilisation of foreign investment became both a principal focus of the reform and the main economic objective in China. On July 1st, 1979, the *Law of the PRC on Joint Ventures Using Chinese and Foreign Investment* was promulgated. The policy and the law symbolised the actual beginning of FDI and the mechanism by which China might access technology, capital, and techniques. What was equally clear,

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though, was that FDI and the associated information, technologies and techniques would not be transferred without a significant shift in China's historical approach to the protection and exploitation of IP. Hence, a series of new IP legislation, dating from 1983, has been rapidly introduced.

Protection for indigenously created technology Technology exports from China are also a feature of the open door policy. In comparison with technology imports, which started in the early 1950s, the corresponding level of exports, which was only managed formally from 1986, is relatively small, but it has been gaining importance over the years during which the open door policy has operated.¹³ For example, the value of imported technology in 1997 was US\$15,923 million while technology exports accounted for only US\$5,521 million. However, technology exports have been developing very rapidly (see Figure 5).

With the increasing importance of technology exports from China, IPP has become crucial to protect indigenous technology. There are two reasons behind this. First, 70% to 80% of the technology exported from China was destined for developing countries, most of which, for various reasons, have weak IPP (Jiang 1995: 64). Second, China has not acquired a great deal of experience in technology exports. The laws and regulations in this case only give a general guidance about technology exports. The fact that exports of this type have increased significantly in recent years suggests not only that there has been an upsurge in indigenous technology production, but also that China requires new laws and regulations to protect the interests of her inventors and other IPR holders.

1.4.2.2. External impacts

Pressure from developed countries It is clear that the "IP fever" that struck China has to some extent been the result of international pressure, especially from the USA. As a consequence of weak protection and piracy, industrial countries, led by the USA, have campaigned for greater protection of their products in developing countries. The confrontation between the developed and developing world is exemplified by a whole series of disputes between the USA and China. As a consequence, a number of bilateral and multilateral agreements have been signed between various developed and developing countries (Bosworth & Yang 2000).

¹³ Technology exports from China commenced in the 1980s, and the government started formally managing them from 1986, when the State Council announced its policy for opening the foreign technology market and intensifying technology export management (Document of the State Council 1986: No. 150).

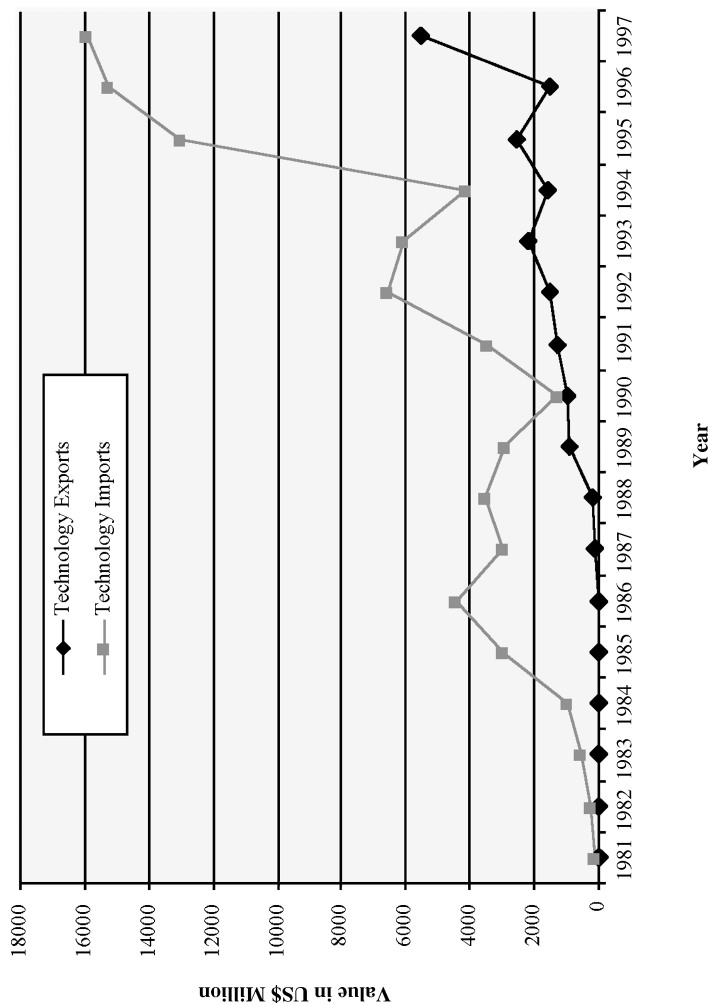


Figure 5: Technology imports and exports in China (1981–1997).

Notes: The value of imports and exports is a gross measure (i.e. contractual value, including technology licensing, goods which embody IPRs, technical services and technology consultancy, etc).

Source: Compiled by D. Yang based on the data from MOFTEC (1983–1998).

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While other developed countries, especially European countries have also influenced the improvement of IPP in China, their powers of persuasion were much less than that of the US¹⁴ for a number of reasons:

- (i) the US is the world leader in more areas of technology than any other country;
- (ii) it has the largest domestic market;
- (iii) it is the largest source of FDI; and
- (iv) it could use (i)–(iii) along with Special 301 to adversely affect any particular economy where it felt IPRs were inadequate and adversely affecting US interests (*op cit*).

“Special 301” was introduced under the *Omnibus Trade and Competitiveness Act*, signed by Reagan in 1988. The effect of this Act was to add grievances about IP to the existing Section 301 regime (Sun 1996: 153–183). Section 301 authorises the US trade representatives (USTR) to retaliate against countries that have undertaken unjustifiable, unreasonable or discriminatory trade practices. Any enterprises or individuals can complain to the USTR. As a part of this, a Priority Watch List (PWL) of countries was established by the USTR to closely monitor IPR policies, acts, and practices, in order to determine whether action under Special 301 was required. In addition, the US also uses “Special Mention”, which refers to a list of countries that should further enhance their IP protection because of existing or emerging problems. Following a decision of the US International Trade Commission (USITC), Section 337 can be used to authorise the US Customs to detain all the imported products associated with IPR infringement.

The US has, characteristically, been quite adversarial in its threats to use Sections 301 and 337, and this appears to have exerted a strong influence on IPP in China, especially in the 1990s.¹⁵ Despite all we have discussed about the

¹⁴ The US has not only taken the lead in the promotion of IPP in developing countries, but has also encouraged debate amongst developed countries. This led to some disagreements, particularly with Japan, whose IP system has significant differences with the other developed countries, and, to some extent, with EU countries. However, the principal points of conflict have been with developing countries, especially with China.

¹⁵ The willingness of the US to invoke Special 301 is itself understandable given the results of a number of surveys regarding the inadequacies of IPP in developing countries and their consequences for US companies. Perhaps the most influential survey was by the USITC in 1988, which reported on interviews with American MNEs regarding the adequacy of IPP outside the US. The findings suggested that most developing countries had weak IPP and MNEs had significant difficulties dealing with IP issues. The resulting loss was set at a total of US\$23.8 billion (Sherwood 1990: 9). Similar studies have been conducted by individual researchers and organisations (*op cit*: 4).

importance of external influences, it is unlikely that the combined pressure from Western countries alone would have produced the major changes that have taken place in China, unless they had been pushing on an open door. The Chinese government acceded to Western pressure in order to further its open door policy and gain access to Western technologies.

Influence of international organisations International organisations have been a further influence on China's establishment of an IP system, especially WIPO and the WTO. WIPO played a major role at the formation stage of China's IPP. The WTO, on the other hand, has been a significant force in driving improvements to the IP system, which will be described in detail in the next section of this chapter. In a word, these two organisations have played very prominent parts in both the formation and development of the IPP system in China.

Since China became a contracting country of WIPO in 1980, it has ratified a series of international conventions and agreements (see Appendix B). Different WIPO conventions have played the role of model laws. For instance, the *Patent Law* in China was based on the Paris Convention; the *Trademark Law* was based on the Madrid Convention and the *Copyright Law* was based on the Universal Copyright Convention. The massive influence of WIPO on Chinese legislation and administration was especially important during the establishment of China's IP framework. Now, China is not only an active member of the organisation, but its laws have also basically kept in line with the different conventions. In the future, WIPO will continue to play an important role in harmonising the Chinese IP system with that of other countries.

By and large, with economic reform and an open door policy, the establishment of IP system has become crucial to attract foreign capital, know-how and technology into China. In the process of the formation of IP system, foreign investors from developed countries especially from the USA have imposed strong pressures on China. The Chinese government also realised that a shift from the old ideology was a prerequisite for acquiring new technology and capital for national growth. Therefore, IPR should be enhanced in order to motivate inventors and creators, protect consumers, ensure product quality and safeguard fair competition. In this process, WIPO has also played an important role in the drafting of IP laws. The most important motivation, however, is that national objectives for economic development have encouraged China to ensure that IPP is sufficiently strong to attract capital and technology from abroad.

1.5. Progression on the Intellectual Property System (1990–2002)

1.5.1. Improvements of the Intellectual Property System

The last 12 years have witnessed a systematic improvement of IPP in China. While Deng Xiaoping opened the door of China for economic development, Jiang, the president who took power after the “Tiananmen incident”¹⁶, has intensified this policy. The intensification is reflected in the tremendous improvements that have occurred in the IP environment in the 12 years following the formation of the IP system in China.

Firstly, since 1990, China has demonstrated to the world its intention to change the IPP environment by ratifying more IP treaties and conventions. They include the Berne Convention (1992), the Universal Copyrights Convention (1992), Geneva Convention (1993), Patent Cooperation Treaty (1994) and Budapest Treaty (1994). A contracting party for the Patent Cooperation Treaty (PCT) has made SIPO in China a receiving office, an international searching authority and an international preliminary examining authority of the PCT (O'Connor & Lowe 1996: 67). In addition, China has participated in the negotiations on IPP from the very beginning and signed the last document of Uruguay Round of the WTO in 1995. China was one of the signatory countries for the Agreement on *Trade Related Aspects of Intellectual Property Rights (TRIPS)* in 1995, and it became a member of the WTO in November 2001.

Secondly, inside China, there have been further changes to improve the newly born IP system:

- (i) There were more new IP laws. In 1991, China announced the *Statute on Computer Software Protection*. In 1992, it promulgated the *Regulations on the Enforcement of Universal Copyrights Convention*. In 1993, China announced the *Law of the People's Republic of China for Countering Unfair Competition (Anti-unfair competition law)*, aiming at protecting trade secrets and know-how, and encouraging fair trade and competition.

¹⁶ In April 1989, massive demonstrations were held in Beijing and hundreds of other Chinese cities by university students, later joined by millions of ordinary Chinese citizens. The demonstrators openly and spontaneously expressed their anger at government nepotism and rampant corruption, and called for democracy and elimination of one-party system. On June 4th, 1989, the Chinese government suppressed the demonstration in Tiananmen Square in Beijing by using military force. The Tiananmen Incident was also called “6.4 Incident”.

In 1994, China enacted the *Decision on Copyrights Infringement Punishment*;

- (ii) China's revision and supplementation of its IP laws were another indication of improvement. In 1991, China promulgated the *Implementation Regulations on Copyright Law*. It also revised its *Patent Law* (1992 and 2000), *Trademark Law* (1993 and 2001) and *Copyright Law* (2002). In addition, it also announced and revised the *Implementation Regulations on the Patent Law* and the *Implementation Regulation on the Trademark Law* during this period; and
- (iii) The establishment of the IP Special Court in 1992 symbolised significant progress in the Chinese IP enforcement system (State Council 1994: 13). This is because IP cases can be reviewed to guarantee unified enforcement. Moreover, judicial experience in IPP can be quickly accumulated for the purpose of enhancing IP enforcement (*op cit*).

1.5.2. Incentives for the Improvements

The rationale for the improvement of the IP system in the early 1990s lies in China's determination to attract more foreign capital and technology. The national objectives of economic reform and the open door policy have become a long-term strategy with the aim of making China a major economic power. This has been clearly spelt out in the previous section. In the 1990s, China has become more determined to sustain development and, as a consequence, IPP has become even more important. In parallel to these internal factors, China has experienced more pressure from developed countries to improve its IP system. This external pressure takes on a particular significance because of the fundamental role of developed countries in accelerating economic development of developing countries through technology transfer and FDI. Meanwhile, the WTO negotiations on IPP directly link IPR and trade, which give IPP an even more important strategic role. This section emphasises the massive influence of the internal and external factors on the further improvements of the Chinese IP system.

1.5.2.1. Further pressure from developed countries China was under considerable pressure from the US during the 1990s. These two countries economically rely on one another, even if the relationship is currently somewhat asymmetric. The US has been one of the most important investors in China, while China has been one of the most significant exporters to the US. As we previously mentioned, the US has been using Section 301 and 337 to

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protect its own IP. In effect, any country that wants to establish trade relations with the US must take account of Sections 301 and 337, or risks a trade war. From 1991 to 1995, China was in the PWL twice, as shown in Table 2. After China became one of the priority countries under Special 301, China and the USA conducted seven rounds of negotiations regarding IPP — which became known as the second period of “IPR fever” (Zheng 1996: 7). We believe that the first “IPR fever” caused a significant stir in the relevant government organisations and intellectual circles, and the second caused a major shock wave, with IP issues gaining high levels of publicity in China. As a result of heated negotiations, the Sino-US *Memorandum of Understanding* on IPRs was signed in 1992 (MOU).¹⁷ China pledged in this agreement to amend its *Patent Law* and *Copyright Law* (Article 1–3). The threatened trade war between the two big powers was prevented. Afterwards, China extended the scope and duration of patent protection, and expanded patent holders’ rights. It also revised the *Trademark Law*. It signed a similar memorandum of agreement with the EU. The specific modifications will be elaborated in detail in the subsequent chapters.

In only two years, however, China became the main PWL country again (see Table 2). This time, the clash was on copyrights. The US argued that copyright protection in China was inadequate and also pointed to a lack of improvement in IPP after the agreement in 1992. China and the USA came back to round-table negotiations again under the threat of imminent trade retaliation by both sides. Nonetheless, an agreement was finally reached in 1995 resulting in the signing of further bilateral agreements on IPRs — which was termed the third wave of “IPR fever” (Zheng 1996: 7). Although bilateral retaliation nowadays

Table 2: The priority watch list countries by the USA (1991–1994).

1991	1992	1993	1994
China	Taiwan	Brazil	China
India	India	India	Argentina
Thailand	Thailand	Thailand	India

Source: Sun (1996: 161).

¹⁷ The complete title is *the Memorandum of Understanding between the Government of the United States of America and the Government of the People’s Republic of China on the Protection of Intellectual Property*.

is against the *TRIPS* agreement, the US has been a constant source of external pressure on China to improve its IP system.

1.5.2.2. Impact of the World Trade Organisation The influence of the USA and other developed countries has been reflected in IP practice, while the impact of WIPO and the WTO has been more on the design of legislation. As we have noted, in the 1980s, WIPO played a vital role in the formation of the IP system in China and, in the 1990s, it continued to harmonise the IP system across countries. Equally significant, under pressure from developed countries, the WTO raised the IPP issue with regard to trade. As a consequence, a new element, *TRIPS*, has been injected into the international arena by the WTO. Under *TRIPS*, any countries intending to access world markets must introduce and enforce IPP to the same standard as developed countries, within five years (Article 65). Therefore, *TRIPS* has made IPP a central issue since trade and IP were linked in the Uruguay round of the General Agreement on Tariffs and Trade (GATT), later renamed the WTO. Compared to the conventions in WIPO, the WTO has introduced a new standard for IPP.

Before we provide a more detailed explanation of the WTO's impact on China's improvements to its IP system, it is worth noting why China was so keen to become a member of the WTO. Three compelling reasons clearly demonstrate why China was so serious about being a full member (Kwang 1999: 47).

- Membership can accelerate reform of the state-owned enterprises (SOEs). Membership of the WTO implies that China will further open its door to the outside world. As a result, more foreign companies will invest in China and bring increased competition and changes to the Chinese market. It is estimated that FDI in China could reach US\$100 billion by year 2005 (*op cit*). In order to survive in this environment, most SOEs will be forced to transform themselves in order to be competitive and profitable.
- Membership will compel China to abide by international rules and regulations relating to trade and the economy, such as IPRs. As a consequence, it will enhance better co-operation and trust between China and foreign countries.
- Membership will also intensify international integration because the WTO safeguards its members' interests, which will certainly assist China to transform its economy.

The *TRIPS* agreement has introduced a higher standard for IPP. Therefore, it has not been surprising to see that China made its first amendment of most IP

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laws during the *TRIPS* negotiation, before and after the WTO entry. It is very clear that *TRIPS* has also (like the WIPO conventions) played the role of a model law in improving the Chinese IP system. For example, in 1993, China promulgated the *Anti-unfair Competition Law*. The *Copyright Law* was announced after the *TRIPS* negotiation had commenced and was amended in 2002. The *Computer Software Regulations* were stipulated in 1991. Perhaps even more importantly, China established its Special People's Courts to enhance judicial enforcement of IP in 1992. It is not a coincidence that all these improvements occur at the time of the *TRIPS* negotiation.

Summary and Conclusions

The study of the history of IPP in China indicated two important aspects — the current systematic framework of IPP has been in existence for over one decade, and its short history has been strongly influenced by historical and cultural underpinnings. The earliest emergence of IPP can be traced back to the 1880s when the then Emperor awarded ten years of protection for mechanised techniques. The first copyright law appeared in 1910 promulgated by the Qing Dynasty. The first patent law emerged in 1944 during the KMT control. However, the sporadic emergence of these laws did not mean that China had an IP system. When Mao took control of China, these laws were eliminated and, in their place, he adopted the former Soviet Union's reward system for inventions and creations. Thus, in the 1950s and 1960s, inventors and creators could obtain rewards in the form of bonuses, certificates and medals. While there was no IPP at this stage, the open door policy for economic growth since 1979 has necessitated the formation of an IP system.

China thus began to systematically establish an IPR system during the 1980s. Judicial organs were resumed, basic laws on IP were promulgated, and different IP administrative organs were established to oversee the working of the system and to facilitate economic development. Moreover, China ratified different international treaties and conventions to show the world that she wanted to be in step with international IP standards. This period saw the initial establishment of a systematic IP system in China. From the 1990s, the IP system was further improved by the revisions of the *Patent Law*, *Trademark Law* and *Copyright Law*. The foundation of the Special People's Court for IPP reflected international developments during the Uruguay Round of GATT. The WTO entry symbolised China's intention of global economic integration. The formation of this IP system has been a revolutionary process in comparison to the evolutionary pattern observed in most developed countries.

The non-existence of IP throughout the long Chinese history was due to a variety of factors. From 200 B.C., China valued agriculture highly and despised the development of industry and commerce. Such unbalanced development was so dominant that there were no strong driving forces to undertake a systematic change. Moreover, traditional ethics, especially Confucianism encouraged imitation and copying. Additionally, the traditional legalism — centralised bureaucratic system advocated state control. Therefore, the people's ideology prevailed that government was the best judge, and "higher than the law". These traditional ideologies had been very influential until at least the middle of the 20th century. Legalism was in full swing in Mao's time, when, instead of IPP, the policy was to encourage people to share inventions and creations. Marxism, Leninism and Maoism advocated public ownership and collectivism. In a centrally planned economy, there should be no cost for acquiring technology. People should eradicate elitism and sacrifice their individual interests for the maximisation of social benefit. As a consequence, there were no incentives for innovation and invention.

The change in the 1980s was dramatic. The national objectives of economic development awoke China to the fact that ITT from developed countries could be a shortcut to accelerating its economic development. However, nobody would be willing to transfer technologies without proper IPP. Technology exports also necessitated that China should protect indigenously created technologies. In addition, developed countries, represented by the US, have been a source of external pressure for change, as a condition of investing their capital and transferring their technologies to China. In the process of this spectacular change, international organisations, such as WIPO and the WTO, have influenced the formation and improvement of the Chinese IP system. Their influence on Chinese IPP will continue to harmonise relationships between China and other countries, and to stimulate global economic development.

Chapter 2

Intellectual Property Theories

Introduction

The purpose of this chapter is to study the theoretical aspects of IPRs in order to establish a general understanding of IPRs. Specifically, the following issues will be discussed:

- clarify the basis issues on IPRs, including the definitions of IPRs, comparison of the different forms of IPRs, and contrast of IPRs with some similar concepts;
- portray the complexity of the core and peripheral subject matter of IPRs;
- illustrate the significance of the corporate management of IPRs;
- describe the existing corporate management strategies regarding IP flows.

2.1. Basic Theories of Intellectual Property Rights

2.1.1. Intellectual Property Rights and the Social Purposes of Protection

Since the 1960s, the term “intellectual property” has obtained a high degree of acceptance and adoption in most countries and international organisations (Cornish 1999: 3; WIPO 1997b: 3; Zheng 1997: 1). It came from German “Gestiges Egentum” in the middle of the 18th century, but then, it meant authors’ ownership to their works, *viz.* copyrights. Even now, some countries, such as the Philippines and Spain, still refer to IPRs as copyrights. In the 18th century, France used the term “industrial property”, which referred to the ownership of the products of the mind and trademarks. The concept at the inception was very limited (Zheng 1996: 5). There were similar appellations to IP, such as “products of the mind”, “industrial property”,

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“intellectual assets”, “intangible assets”, etc. However, IP has been a unified expression since the 1960s under the influence of WIPO.

The WIPO convention has provided a very broad definition of IP (Article 2: viii). It defines IP as follows:

“Intellectual property shall include the rights relating to:

- literary, artistic and scientific works;
- performances of performing artists, phonograms and broadcasts;
- inventions in all fields of human endeavour;
- scientific discoveries;
- industrial designs;
- trademarks, service marks, and commercial names and designations;
- protection against unfair competition;

and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields”.

In brief, intellectual property refers to “the legal rights which result from intellectual activity in the industrial, scientific, literary and artistic fields”. (WIPO 1997b: 3). A further distinction is made between industrial property and copyrights (*op cit*). Industrial property and copyright are the two categories under IP. Industrial property includes inventions — patents, trademarks, industrial designs and geographical indications. Copyright includes literary and artistic works, and rights relating to copyright, such as those of performances, production of phonograms and broadcasting (www.wipo.org).

The International Association for the Protection of Industrial Property (AIPPI) and the National Academies Policy Advisory Group in Britain (NAPAG) have a different explanation. NAPAG divides IPR into two groups — rights of creative works and rights of identifiable marks. The former includes rights of inventions, integrated circuits, plant varieties, know-how, industrial designs, copyrights and software; the latter includes rights of trademarks, service marks and anti-unfair competition related identifiable marks. NAPAG categorises IPR into two groups according to the formalities of registration. One group of rights needs formal registration to obtain, such as patents, registered designs, registered trademarks, etc. The other group of rights is automatic without any significant formality, such as copyrights, unregistered design rights, confidence, etc. It should be noted that trademarks do not need

to be registered for protection under common law in the UK and USA. However, they may be protected elsewhere under unfair competition laws.¹

The *Dictionary of Economics* defines IPR as:

“... the legal ownership by a person or business of a copyright, design, patent, trademark attached to a particular product or process which protects the owner against unauthorised copying or imitation. Such property rights are an important element of product differentiation and confer temporary monopoly advantages to suppliers” (Pass & Lowe 1993: 265).

Reuters Professor, David Vaver (1999b) believes that “IP today is shorthand for a whole list of disparate rights that have this in common: they protect some products of the human mind, for varying periods of time, from others’ using those products in various ways”.

British IP scholar, Professor Cornish limits IPR within patents, confidence, copyrights and designs, and trademark and names based on the UK law, but he admits that there is “no single generic term that satisfactorily covers them all” (Cornish 1999: 3).

Chinese IP scholar, Zheng (1997: 2) thinks that IP should comprise industrial property rights and copyrights, including patents, trademarks, anti-unfair competition rights, such as know-how, copyrights and neighbouring rights.

Sherwood (1990: 11) indicates that IP has dual meanings. It is “ideas, inventions and creative expression” and “public willingness to bestow the status of property on those inventions and expressions”.²

The definition from the WTO is concise enough to lead a good understanding of the current research. It defines that “IPR is the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time” (www.wto.org). It divides IPR into two main areas: copyrights, including copyrights related rights, and industrial property, including trademarks, geographical indications, patents, designs and trade secrets.

¹ Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th, 2001.

² The former “ideas, inventions and creative expression” has a broader meaning than the latter “public willingness to bestow the status of property on those inventions and expressions”, as it includes IP that is not subject to authorised rights or is not being protected by those rights. However, this explanation is too broad to express clearly the specific functions of different property. For example, authors’ and musicians’ ownership for their works is not a “public willingness to bestow” issue, but natural and automatic acceptance of the ownership.

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There are three economic and social purposes of IPP (WIPO 1997b: 7–8):

- (i) It motives inventors' and creators' creativity by providing the means to recoup R&D expenditures;
- (ii) It facilitates the dissemination and application of the creations through ITT, FDI and licensing;
- (iii) It gives limited rights to balance the legitimate interests of right holders and users.

By and large, IPRs encompass a wide and diverse range of rights, but the definition from WIPO and especially the WTO has made the understanding of the terminology more unified. In the present study, we will pay considerable attention to the industrial property aspects of IP, such as patents, trademarks, industrial designs and confidence. Copyrights are not a significant focus during the course of the present research. All these different forms of IPRs will be elaborated on in the next section.

2.1.2. *Different Forms of Intellectual Property Rights*

The earlier discussion about the definitions of IPRs has indicated clearly that there are different forms of IPRs. We do not intend to specify every aspect of the various forms within the confinement of the book, but concentrate on those that are particularly relevant to the current study.

2.1.2.1. Patents The concepts of invention and patent must be discussed simultaneously. “An invention is a novel idea which permits in practice the solution of a specific problem in the field of technology” (WIPO 1997a: 7). A patent is “a document, issued by a government office, which describes the invention and creates a legal situation in which the patented invention can normally only be exploited (made, used, sold, imported) by, or with the authorisation of, the patentee” (*op cit*: 8). Thus, patents grant inventors exclusive rights to exclude others, including those who independently (though belatedly) made the same invention, from exploiting the invention without the inventor's authorisation for a certain period of time, usually 20 years (*op cit*).

In most laws, three conditions are needed for the patentability of an invention — novelty, inventiveness and utility (*TRIPS* 1995: article 27.1). Novelty means that the invention must be new without publication or public utilisation (WIPO 1997a: 7). Inventiveness means that the invention represents a non-obvious inventive step (*op cit*). Utility refers that the invention must have industrial applicability, i.e. it can be manufactured or utilised industrially (*op*

cit). Patents can be divided into product patents and process patents depending on the natures of the inventions. A product patent is the “right to make, use, sell and import the products that include the invention” (WIPO 1997b: 8). A process patent is the “right to use the process” or “the right to make, use, sell and import products made by the process” (*op cit*).

The protection afforded to an invention has spatial and temporal limitations, depending in which country or region the patentee applies. Usually, the length of a patent is 20 years, such as in the UK and China, from the filing date of the patent application. A patent granted in the UK alone will not be protected in China, because of its spatial limitation. If an inventor in the UK wants to have his/her invention protected in China, a further application must be made under Chinese national IP law unless the patent is granted internationally, for example *via* the Patent Cooperation Treaty (PCT) under the auspices of WIPO.

While spatial and temporal limitations are generally well defined by law and understood, scope limitations of a patent can be a perplexing and sensitive aspect, as an infringement often relates to the scope of an invention. The scope of a patent strongly depends on the claims in the specification. The claim should be sufficient enough in breadth to prevent peripheral invention infringement (NAPAG 1995: 48). There clearly remain international differences in the administrative and legal interpretation of scope (see, for example, the comparison of Japanese and US scope in Grandstrand 1999).

2.1.2.2. Trademarks There are different marks for the purpose of commercial protection. A mark is, “. . . a sign, or a combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings” (WIPO 1997a: 8). Marks are a form of identification that consumers, manufacturers and authoritative organs can use to distinguish one product or brand from others in terms of their quality and other features (WIPO 1997a: 10–11). They can be trademarks (relating to goods) and service marks (relating to services) depending on the purpose of commercial activities. Trademarks refer to “. . . any sign that individualises the goods of a given enterprise and distinguishes them from the goods of its competitors” (WIPO 1997b: 184). However, depending on the country concerned, there also exist unregistered marks, certification marks and collective marks. These, along with trade names and geographical indications, also fall in the sphere of marks, but they are outside the scope of the current study.

In most cases, registration is needed to ensure maximum protection. This takes place at the registration office or the same office as patents depending on the country in question. Once registered, identical marks (or even similar marks that might confuse buyers) cannot be used on the same products or services by

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other individuals or enterprises. One difference about marks from patents is that mark protection is not time-limited, subject to the condition of continuous renewal and use.

2.1.2.3. Industrial designs An industrial design is “. . . the ornamental aspect of a useful article. This ornamental aspect may be constituted by elements which are three-dimensional . . . or two-dimensional . . . but must not be dictated solely or essentially by technical or functional considerations” (WIPO 1997a: 9). It must have novelty (originality) and be registered for protection against copying and independent designing in relevant registration offices, such as a patent office (*TRIPS*: Article 25.1). Once registered, other individuals or enterprises are not allowed to import, sell or make products bearing the protected industrial design without appropriate consent of the owner (*op cit*: Article 26.1). Protection for an industrial design is, like a patent, also limited in time — in this instance for 10 years (*op cit*: Article 26.3).

Depending on the country, region or context, industrial designs can be protected in other ways. In some countries, industrial designs are “works of art”, which are protected under copyright law (WIPO 1997a: 10). In the UK, industrial designs are categorised into registered designs under the Registered Designs Act 1949, artistic copyrights (design documents or models) and unregistered designs under both copyright and registered design law (Cornish 1989: 368–388).³ In China, industrial designs are protected under the *Patent Law*. The duration of protection is usually 10 years from the first “legitimate marketing” of products bearing the designs.

2.1.2.4. Utility models Utility models are rights given to minor technological solutions for products or processes. By implication, on balance, they are associated with a smaller degree of technological advance than in the case of patented inventions (Bosworth & Yang 2001: 4). Therefore, in some countries, such as Japan, utility models are also known as “petty patents” (*op cit*). Neither WIPO nor the WTO have unified the standards for utility models as a form of IPP. Some countries have already adopted this second-tier type of “patent protection” system, including China, Japan, and most EU countries (excluding the UK, Luxembourg and the Netherlands). Utility models generally have a lower inventive step, a shorter protective period, lower fee for the right, and a simpler and shorter procedure for examination (WIPO 1997b: 9). However,

³ The *Registered Design Act 1949* was amended in 1988. The duration of a registered design is five years, extendable to maximum 25 years, but the duration for unregistered designs varies from ten to 15 years (Cornish 1989).

different IP systems have different criteria for utility models. For example, most EU countries have already adopted this model at a national level, but reaching some form of regional standard for the system has proved a heated issue. The Japanese tend to split their products into components for protection, therefore, there is a relatively wide usage of utility models (Bosworth & Yang 2000: 464). China protects utility models under its patent law. The condition to obtain the right for the protection as a utility model is the same as that for a patent (i.e. novelty, inventiveness and utility), but the extent for inventiveness is lower. In 2000, China received 68,815 applications for utility models with deposits of 56,077 (www.wipo.org).

2.1.2.5. Know-how Protection against unfair competition was first recognised as a forming part of industrial property in the Paris Convention of 1900 (WIPO 1997b: 243). Different from most IP rights, protection against unfair competition is based on the legislation relating to honest business practice rather than the grant of rights *per se*. WIPO refers protection against unfair competition as “repression of unfair competition” (WIPO 1997a: 10); China refers it to “anti-unfair competition”;⁴ and the WTO refers it as “control of anti-competitive practices” (*TRIPS*: Article 40 section 8 Part II).

Apart from the different appellations, the scope of anti-unfair competition varies considerably across different countries. Anti-unfair competition usually includes trade secrets, confidence or know-how, anti-passing off, anti-dumping, etc. (NAPAG 1995; Sherwood 1990; WIPO 1997a; 1997b; Zheng 1997). The categorisation from WIPO is very specific and all embracing. This can be seen from the following quotation:

“The repression of unfair competition is directed against acts or practices, in the course of trade or business, that are contrary to honest practices, including, in particular:

- acts which may cause confusion with the products or services, or the industrial or commercial activities, of an enterprise;
- false allegations which may discredit the products or services, or the industrial or commercial activities, of an enterprise;
- indications or allegations which may mislead the public, in particular as to the manufacturing process of a product or as to the quality, quantity or other characteristics of products or services;

⁴ See *Anti-unfair Competition Law* in China (1990).

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- acts in respect of unlawful acquisition, disclosure or use of trade secrets;
- acts causing a dilution or other damage to the distinctive power of another's mark or taking undue advantage of the goodwill or reputation of another's enterprise" (WIPO 1997a: 10).

Summarising WIPO's definition, anti-unfair competition includes the protection of trade secrets and goodwill, and guards against passing-off. A trade secret is information with an industrial and commercial value that an enterprise endeavours to keep from public (Sherwood 1990: 12). In the UK, personal confidences and government secrets are protected by the breach of confidence action (Cornish 1999: 10).

2.1.2.6. Copyright Copyright is different from other rights. Firstly, according to Vaver (1999a),

"Copyright is not a full monopoly right like a patent. A patent gives its holder the right to stop anybody producing anything within the scope of the patent, whether they knew of the patent or not. A copyright stops only copying: if you create your own work without copying anyone else's, you do not infringe copyright even if your work is identical to the other work."

Secondly, copyright is an automatic right that does not require registration, but other rights, except know-how, usually need approval and registration.⁵

Two other sets of rights are closely related to copyright — moral rights and neighbouring rights. Moral rights are "... the rights of authors to have their work attributed and to prevent prejudicial alterations" (*op cit*). Neighbouring rights are "... the rights of performers, record companies and other distributors of copyright material such as publishers, broadcasters and cable companies to prevent copying of the distributed form of the work" (*op cit*).

The current study is industry-related copyrights, which will be addressed as a special copyright issue here. Computer programs and databases are typical examples. They are protected by patents, trade secrets and copyrights dependent on the country concerned (Branscomb 1990: 48). These two are relatively new industrial areas and, to date, there is not too much evidence

⁵ In the UK, © and the date are indicated in each publication. A copy of a book should be lodged with the National Library. These formalities are not required under the Berne Convention or *TRIPS*, but exist in practice (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001).

about their protection. Thus, we list them under “special copyrights” category to avoid ambiguity. Regarding IPP as such, many industrialised countries use copyright law (NAPAG 1995: 25). In China, the protection is also under the *Copyright Law*, specifically under the *Regulations on Computer Software Protection* with a term of 25 years and a renewal period of 25 years.⁶ It seems that there are no specific stipulations if 25 years plus a renewal period of 25 years of copyright protection for computer programs are compliant to the Berne Convention and *TRIPS*.

2.1.3. Common Features of Different Intellectual Property

IP has its own special features, especially the ones that characterise it as being different from tangible assets. Summarising and extending the previous researchers’ analyses, the following appears to be important features of IP that have implications for IPRs.

2.1.3.1. Intangibility The intangibility feature differentiates IP from tangible assets (Zheng 1997: 4). Before WIPO adopted the term “intellectual property” in the 1960s, many countries had used the term “intangible property” because IP reflects the features of intangibility (Liu 1996: 1; Zheng 1997: 4–5). There are three major differences between tangible and intangible assets (*op cit*):

- (a) Object: when a physical asset is transferred, the transfer object is the asset itself. When an IP transfer happens, it can be an outright transfer (assignment) and licensing. In the former case, the transfer is no different from that of a physical asset. However, transfer of most intangibles is related to the latter case, i.e. the right is retained by the owner, but the licence has either exclusive or non-exclusive rights to its use, often involving the payment of royalties.
- (b) Easily infringed and complex to study: because of its intangible feature, innocent infringement can easily happen from the users’ side; transferors may sell the rights to more than one buyer. The intangibility leads to greater complexity and thereby potential problems in IP trading and protection than in the case of tangible assets.
- (c) Easily confused: IP is closely related to tangible assets so that confusion can easily happen. If a painter gives his painting to a magazine for

⁶ Software is primarily protected by copyrights and patents in the US, and by copyrights in the UK. Business system protection is a new and disputed area, for example, Arthur Anderson would like to have its whole business system protected.

publishing, the painter normally retains his/her copyright as well as the painting itself, but authorises the magazine a “licence” to reproduce the painting.

2.1.3.2. Exclusivity Exclusivity is at the centre of IPRs. It is strictly defined to exclude others from using the IP without permission of the owner (Sherwood 1990: 28). Moreover, it is more complex than exclusivity with respect to tangible assets (Zheng 1993: 4). For example, two persons can own or sell physical assets with the same style and design, but two inventors cannot independently own or sell the same patented invention (as they cannot acquire the patent rights together except as joint applicants).⁷ Only the first-to-file in most countries or the first-to-invent in the USA can acquire the exclusive rights, the other person cannot use his own independent (but belated) invention for free (NAPAG 1995: 19).

When an IPR is licensed, an understanding of the degree of exclusivity needs to be established (Sherwood 1990: 32). This is probably one of the reasons that ITT to developing countries is more problematic. However, IP transactions between buyers and sellers or licensors and licensees raise the crucial importance of signing a specific contract between partners to safeguard IPRs.

2.1.3.3. Legality Legality is another important feature of IPRs. It can be seen from: (a) the mechanisms or systems put in place to protect IP; (b) the design of these mechanisms, for example, to limit the duration of the monopoly rights of the owner; (c) the need to address public interests; and (d) the enforcement of IPRs.

(a) Mechanisms to protect different forms of IP can be either simple and costless or complex and expensive. For example, copyrights are automatically effective upon the creation of artistic or literature works. The mechanism for the protection of registered trademarks is more complex than copyrights as formality is needed for the legality of the right, including exhaustive research on similar marks to avoid public confusion and the payment of renewal fees. The greatest degree of cost and complexity is associated with acquiring patent rights, which, after

⁷ Two separate patents cannot be issued for the same invention unless, for example, both applications are filed on the same day (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th, 2001).

application, require extensive tests of novelty, validity, etc., by highly skilled patent examiners (Sherwood 1990: 30).⁸

- (b) Time-limited rights: different forms of IPRs have different durations of legal protection, and there remain some variations across countries in the periods involved. Patents have a maximum limitation of between 16 and 20 years (generally now 20 years). Copyright protection is usually effective for the author's life plus 50 to 70 years depending on the country involved. Renewal is required for most forms of registered protection, such as trademarks. Once protection lapses, the IP effectively becomes available for anyone to use. However, this is not the case for registered trademarks because they may retain "residual protectible goodwill" after the registration lapses or is invalidated.⁹

Within the time limit of protection, there is also the "doctrine of exhaustion of rights". The idea is to stop the right owners from using or abusing their exclusive rights (Szymanski 1999). British IP scholar, Cornish discusses the exhaustion of rights as follows (1999: 41):

"In many cases, both in Britain and in foreign laws, the rights are 'exhausted' after first sale by the right-owner or with his consent. But often this is confined to first sales within the territory covered by the right — it amounts to a principle of domestic, rather than international, exhaustion. Accordingly, national rights that are subject to such limitation can still be used to prevent the importation of goods sold abroad by the national right-owner or goods which come from an associated enterprise".¹⁰

The importance of exhaustion was recognised by *TRIPS* (Article 6): "Under this Agreement, subject to the Provisions of Article 3 and 4 nothing in this

⁸ It should be noted that trade secrets are often thought costless, but owners of trade secrets in sensitive areas often spend a lot of money to protect them, e.g. the closely guarded recipes for KFC, Coca-Cola and Irn-Bru.

⁹ Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001.

¹⁰ Cornish (1999: 41) also discusses specifically about exhaustion of rights in Britain. "In Britain, the relation between rights and distribution of goods has not in the past been dealt with by any general concept of exhaustion. The approach has varied with the subject-matter. In the case of patent law (in contrast with other major patent systems), the British traditionally adopted the contrary position to 'exhaustion': in principle, subsequent uses and sales continued to require the patentee's licence. This, as we shall see, is an approach that is in process of being dismantled in all save exceptional cases. For this, basic policies of the E.C. are primarily responsible".

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Agreement shall be used to address the issue of the exhaustion of intellectual property rights”.

However, exhaustion is one of the difficult issues in the *TRIPS* negotiation (Gervais 1998). Arguably, non-exhaustion is a form of IP abuse, but not everybody thinks so. It may depend on the IPRs: Patents and copyrights may be treated differently from trademarks.¹¹ Therefore, there is a long way to go to reach a specific international agreement on the issue (Abbott 1997; Cottier 1997; White 1997).

- (c) Exclusivity is confined to the consideration of public morality and national security (Sherwood 1990: 32). A trademark will not be granted if it is “detrimental to customs or unhealthy influences” (*Trademark Law*: Article 8). A patent may not be granted if, for example, national security interests are impaired. Publication of an invention might reveal militarily sensitive knowledge to potentially hostile powers or a trademark may violate certain religious beliefs. Patents relating to national security matters may be granted, but they may also be sealed from public inspection (*Patent Implementation Regulation*: Article 8).
- (d) Enforcement: every country with an IP system establishment has its own regime to safeguard the effectiveness of IPRs. For example, in most industrialised countries, there are private and criminal action, and measures to monitor cross-border activities (Sherwood 1990: 35). The nature and balance of these measures (i.e. conciliation, arbitration, litigation) differ between countries, as does the rigour with which they are exercised.

2.1.3.4. Territoriality IPRs are spatially limited. This has three implications, as suggested by the NAPAG study (1995: 45–46).

- IPRs are nation-based. Nations design IPR laws and policies with an eye on their contribution towards realising the country’s national economic and social objectives. Therefore, to some extent, nations differ in their IPR systems insofar as they are designed to meet their specific needs.
- IPRs may have a regional linkage. Like economic integration, IPRs also have a regional connection. That is, within particular regions, regional standards for protection are established to secure equal treatment in participating countries. The typical example is the European Patent Office (EPO) with headquarters in Munich. The EPO seeks collaboration for EU-wide IPRs within the member countries of the European Union (*op cit*: 46).

¹¹ Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001.

- There are a number of forces working towards the international harmonisation of IPRs, with two streams of activity that work in broadly the same direction. One stream is the harmonisation of national laws in line with international treaties and conventions; and the introduction and development of international laws, which individual countries then ratify and they become part of domestic law. With regard to the first stream, a number of international conventions have already been established to seek equal treatment across participating countries. These include the Paris Convention for industrial property, the Berne Convention for copyrights, and *TRIPS* for trade and services. These conventions make participating countries keep their national laws in line with international standards.

The second stream is represented by developments, such as the European Patent Convention (EPC) and the Patent Co-operation Treaty (PCT), which are intermediate moves towards a truly international patent as proposed in the Community Patent Convention (which has never been ratified by EU Member States).

Two important international organisations have played pivotal roles in the harmonisation of world IPRs — WIPO and the WTO. Before 1986, WIPO was the only internationally influential organisation covering IPR issues. From 1986 to 1994, the Uruguay round of GATT directly linked international IPP with international trade and services. The WTO established in 1995 has put IP centre-stage in international business.

2.1.4. Similar Concepts

The ambiguity of IPRs is also reflected in the context of some similar and partly related concepts. For the benefit of this study, it is well worth clarifying them at the outset.

2.1.4.1. Intangible assets Assets are items or property with a money value that are possessed by an individual or a business (Pass & Lowes 1993: 19). They are composed of three parts, in particular (*op cit*).

- (1) physical assets: such as plant, equipment, vehicles, machinery, etc.
- (2) financial assets: stocks, shares, bank deposits, currency, etc.
- (3) intangible assets: non-physical assets of an individual or a business with a money value, such as goodwill, brand image, IP, publishing rights, licences, etc.

2.1.4.2. Goodwill The clarification above indicates that goodwill is also a part of intangible assets, but different from IP. Goodwill is “. . . the difference at a particular point in time between the market valuation of a firm and the sum of its (net) assets recorded in a balance sheet if another firm wishes to acquire this firm . . .” (Pass & Lowes 1993: 226).

2.1.4.3. Intellectual capital Intellectual capital is also called intangible assets, intangible resources and intangible competencies (Hall 1993: 608). It is “the term given to the combined intangible assets which enable the company to function” (Brooking 1998: 12). It mainly includes four parts — market assets, human assets, infrastructure assets and IP assets (*op cit*). There will be more explanation about this part in the subsequent part of this chapter.

2.1.4.4. Industrial property rights Nowadays, the difference between industrial property rights and IPRs has become less distinct than before. In general, IP is much broader than industrial property rights. Industrial property rights only include patents, industrial designs, utility models, trademarks and know-how. Copyright is not included within industrial property rights.¹² However, copyright was extended beyond the protection of artistic and literary works for commercial purposes when the USA used copyrights to protect computer programs in 1980 (Rapakko 1990: 7). Subsequently, when semi-conductors were also categorised being subject to copyright protection, the distinction between IP and industrial property was further blurred. It can be argued, for example, that parts of copyright, such as software and databases closely related to industries, should be included within the category of industrial property rights. With further advances in computer and semiconductor technologies, the border between industrial property rights and IP is likely to become even more indistinct in the future.

2.1.4.5. Intellectual property, intellectual property right, intellectual property assets and intellectual assets Intellectual assets “. . . are created whenever the human capital commits to paper or (any other form of media) any

¹² However, “Copyright has long protected works for commercial purposes, for example, advertising copy, catalogues, compilations, maps, blank forms, artistic craftsmanship, etc.” It used to protect functional objects like car exhaust system in the UK before 1988. It protects artistic designs on utilitarian objects in the US (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001).

bit of knowledge, know-how, or learning” (Sullivan 1999: 133).¹³ Any intellectual assets that are legally protected are called IP (*op cit*), IP assets or IPRs.

IP and IPRs may not be wholly separated (Cornish 1999: 3; WIPO 1997b; TRIPS 1995). This is because WIPO and the WTO mix the use of the terms IP and IPR. Additionally, the word “property” in IP, for example, implies some form of ownership rights — a private as opposed to a public (or common) property. When IP and IPRs are translated into Chinese, the Chinese version for both is the same as “Zhi Shi Chan Quan”. However, some authors argue that there is a clearly conceptual distinction. For instance, Pitkethly (1993: 1) argues reasonably and understandably that “. . . invention is a piece of IP, but patent is an IPR protecting it.” It is very crucial to differentiate the two when valuation takes place. Pitkethly argues:

“If an invention is worthless, one would expect any patent to be worthless, too. However, if just the company’s own embodiment is worthless, and a different one or an improvement developed by others under licence is successful, then, the IPR enabling the licensing may be worth more than the company’s specific version of the underlying IP. A company may decide not to commercialise an invention itself at all, in which case the total value will lie in the IP sale or licensing opportunities” (*op cit*).

2.1.4.6. Knowledge management and intellectual property management

“Knowledge companies” are those companies whose predominant profits are from converting knowledge into commercial value (Sullivan 1999: 132). Therefore, the knowledge itself and the structure to sustain and convert the knowledge profitably are two important components in knowledge companies (Koenig 1997: 112). Some clear-cut examples of knowledge companies include Microsoft, Netscape, World online, 3M, and pharmaceutical companies. Once the knowledge is written, it becomes codified knowledge, such as plans, memos, sketches, drawings, computer programmes, blueprint etc, which can be independently studied without personal contact (Sullivan 1999: 133; Verspagen & Schoenmakers 2000: 2). When the knowledge is embedded only in people, such as scientists and inventors, it becomes tacit knowledge, which can be only

¹³ Some care needs to be taken with the scope of intellectual assets, as defined here. The broader literature deals with tacit knowledge, organisational knowledge, etc, which appears to be excluded from this definition.

transferred by personal contact (Verspagen & Schoenmakers 2000: 2). The management of the above-mentioned knowledge is knowledge management.

When the knowledge companies and its management are defined, it is not difficult to understand IP companies and management. IP companies are the ones whose main profits are generated by converting legally protected IP into commercial value in the market. IP management refers to the management with a significant IP focus, whose goals include the generation of IP and leveraging IP into market value (Sullivan 1999: 135).

2.1.4.7. Technology, technology transfer and international technology transfer In studying the development of China, technology transfer has become a central issue. Here we attempt to provide a number of definitions relevant to technology transfer in order to highlight the role that associated IPRs play in this process.

Technology Previous research shows that technology and its utilisation comprise an important sub-set of knowledge (Schmookler 1966; Murphy 1967; Mansfield 1971; Gee 1981; Mansour 1981; Perlmutter & Sagafi-nejad 1981; Pugel 1981; Erdilek & Rapoport 1985; Eveland 1986; Lan 1996). For instance, Schmookler (1966) defined technology as the knowledge of industrial arts. Mansfield (1971), from an economic point of view, described technology as “society’s pool of knowledge”. Eveland (1986) indicated that technology is rather knowledge of the physical world and the way of manipulating the knowledge for human purpose. Erdilek & Rapoport (1985) summarised technology as “. . . accumulated knowledge and know-how” for production. Therefore, summarising the definitions of early studies, technology can be broadly defined as a convergence of knowledge and its application for human benefit. The difference lies in the content of knowledge.

International technology transfer International technology transfer is difficult to define. However, “international” here makes sense. As Erdilek & Rapoport (1985: 251) indicated, it is, “. . . the easiest one to define operationally. Technology transfer across national boundaries is generally accepted as international technology transfer”. The word “transfer” is central to the debate about the definition of ITT (*op cit*). There are two main views about the meaning of transfer (*op cit*). One group believes that technology is only really transferred when transferees actually utilise the technology. The other group argues that it is not necessary for the recipient to use the technology. The argument has taken on greater importance with the increasing volume and value of international transfers. In the present study, we take the view that it is

the act of transfer and not the effect of the transfer that is the basis to judge whether a transfer of technology has occurred. The Latin origin of the word provides some support for this as, “trans” refers to “over” or “across border” and “ferre” means “carry”. This suggests that transfer is a process and not a result.

The definition for technology transfer is perhaps less hotly debated than the constituent parts, technology and transfer. Most researchers believe that technology transfer is a process of knowledge transmission (Gee 1981; Erdilek & Rapoport 1985; Reisman 1989). Gee (1981) defined technology transfer as “. . . application of technology to a new use or to a new user for economic gain”, which happens *via* people, products and processes. Reisman (1989) defines technology transfer as “. . . conveyance or shift of the tools, techniques, procedures, and/or the legal titles thereto used to accomplish some desired human purposes”. Erdilek & Rapoport (1985) referred more specifically to the process, by way of, “. . . transmission, revision (adaptation) and implantation (absorption) of knowledge.” However, a necessary, but missing distinction from the above definition is the difference between acquiring a right and using it, which has also been mentioned earlier (see p. 47: 2.1.3.1 (a)). In other words, outright transfer and licensing are not distinguished.

Technology transfer can broadly be categorised into horizontal technology transfer and vertical technology transfer (Mansfield 1971; Perlmutter & Sagafinejad 1981; Brook 1984). Vertical technology transfer means the flow from basic research, applied research to development, commercialisation and marketing for a particular technology (Rogers & Valente 1991) — although, today, it is generally recognised that this flow is not unidirectional. Basic research is usually conducted in universities, while applied research, development, commercialisation and marketing are carried out in private companies — although the distinction between the roles of universities and private firms is far from clear-cut. Horizontal technology transfer refers to the geographical and/or organisational flow. Most research describes technology transfer as a horizontal flow (Mansfield 1971; Pugel 1981; Mansour 1981; Perlmutter & Sagafinejad 1981). In addition to the horizontal and vertical divisions above, the author would like to add another transfer form, which covers both vertical and horizontal — the current study names it “diverse technology transfer”. For instance, if technology transfer is between a university in one country and a company in another country, we should categorise transfer of this type as a diverse one.

Horizontal technology transfer can further be divided into two groups — intra-national and international technology transfer (Perlmutter & Sagafinejad 1981). This distinguishes the extent to which technology moves spatially (i.e.

from one geographical location to another). The former transfer takes place between sectors or regions domestically. The latter transfer happens across national boundaries.

To summarise the above definitions, the research defines technology transfer as the process of knowledge diffusion for various human benefits nationally and internationally. The role of IP and IPRs in ITT is the principal focus of the present study, *viz.* the technology application process from one country to another. The emphasis is specifically on inward IP flows into China from other countries, especially from developed countries, such as the UK and US.

2.2. Intellectual Property Rights as a Subject

IP has been a subject for legal studies for as long as IPRs have existed. There are three reasons to regard it as such. Firstly, IP is a legal right. Therefore, it is not surprising that IP legislation and practice have exerted an important influence on various national and international debates. Moreover, a vast amount of research discusses the related rules, regulations and legal practice. Secondly, most individuals who are not experts in IP believe the subject to be an area of law.¹⁴ This notion should be changed now that we are in the 20th century, an era that IP has become rather interdisciplinary. With the increasing importance of IPP, IP is increasingly developing into a specialist subject in its own right. Thirdly, the classification to IP books in academic libraries is also law-oriented, almost irrespective of which aspect of IP is being discussed.

However, IP as a subject has grown enormously in recent years. As Vaver (1999b) described:

“IP . . . has come to affect more and more of people’s daily work and leisure activities. In doing so, it has moved from being largely the preserve of technical lawyers to engaging other disciplines and perspectives. Besides law, economics, geography, philosophy, and business management are represented in this series — and that by no means covers the field. IP has become global not only in the physical territory to which it applies, but also in the range of disciplines it attracts and which elucidate it”.

¹⁴ There is evidence from the author’s own experience. Whenever the author replied to people’s query about her research interests, people would unexceptionally react: “Oh! It is law, isn’t it?”.

As IP has expanded very quickly into these new areas, "... many fundamental questions remain unresolved, few persons outside the legal profession have devoted much time or effort to studying the broad dimensions of IP matters. As a result, the field is virtually unexplored territory for research and study" (Benko 1987: 47). However, with the increasing importance of technology (in the broad sense we defined above), IP, as a subject, has rapidly spread over different areas, which has attracted attention of different circles.

Some examples can illustrate this. The economics of IPRs has become a very popular topic next to the IP laws (Bosworth & Yang 2000; Granstrand 1999; Pitkethly 1993; Rushing & Brown 1990; Sherwood 1990; Smith & Parr 2000; Sterling 1997). For instance, Smith & Parr (2000) focused on the quantification of the economic value of IP and discussed different methods that determine the value. Bosworth & Yang (2000) analysed the IP activities of China from 1985 to 1995 and examined the importance of IPRs in its economic development. The sociology of IP has also been a very important topic because of the close links between IP, history and culture. Historical research has provided knowledge about the evolution of IP in different geographical locations (Firth 1997; WIPO 1997b). Some researchers link IP with culture, such as ethics (Coombe 1997; Ziff 1997; Bently & Maniatis 1998). IP has also been linked with finance (Arthur Andersen & Co. 1997), taxation (Gallafent 1981; Adams 1987; Eastaway 1998), philosophy (Brush & Stabinsky 1996; Pels 1998) and trade (Hoekman 1995; Sterling 1997). Arthur Andersen & Co. (1997) elaborated different valuation methods and emphasised the significance of IP valuation to financial institutions. Hoekman (1995) illustrated the importance of political economy of the world trading system as GATT was transformed into the WTO. Perhaps, the closest link with IPRs is politics because legal articles are stipulated for the interests of countries and their peoples. There have been a vast number of rules and regulations from different national governments and international organisations to specify the protection and administration of IPRs. Doern (1999) examined national and international IP agencies and institutions in the context of industrial-trade-innovation policy and political interests. In recent years, IPRs have also been directly associated with high technology, such as electronic data processing (Hoffman 1999), information technology (Conradi 1999), biotechnology (Standford 1995) and genetics (OECD 1996).

The previous studies indicate that there is only a very limited amount of research from a management perspective. We can categorise this research by area or sector. The NAPAG elaborated the significance of IP from the point of view of an academic institution (1995). Most research has been rather practical in nature, instructing on the understanding of IP law, such as an introductory

handbook for R&D managers and advisors in the health sector (NHS Executive 1998), IP for managers (Williams 1986; Irish 1991), IP for engineers and scientists (Konold 1979; Irish 1994; Sullivan 1995), and licensing (Melville 1972; 1979; Wilkof 1995). Some research is consumer- and service-oriented, such as the consumers' view of IP by British National Consumer Council (1991), IP and cable distribution of television (Dittrich 1983), and innovation dynamics in services (Anderson 1998). A corporate view on the IP system is rarely revealed and studies on corporate IP management is even scarcer.

The above brief description demonstrates that, while IPRs still tend to be viewed as a part of the law, as a subject, nevertheless interest has expanded very rapidly into other areas, including economics, sociology, politics and management. It indicates that there is a lack of study from a management point of view, especially from a corporate perspective. The existing work in this area tends to be more "instructive" in nature, focusing on practical day-to-day issues faced by managers, scientists, and engineers. There is also research on institutional considerations, such as the public sector, services and research institutions. Research in management has also included the issue of licensing and technology transfer, and the significance of IP on corporate performance. However, these areas are not the focus of the book, which concentrates upon the corporate management of IPRs in an international context. Moreover, relevant areas, such as international issues and the Chinese IPR system will also be elaborated, to help to throw light on the focus of the present study. These areas will be spelt out in greater detail at a later stage.

2.3. Different Extent of Intellectual Property Protection Across Sectors

IPRs have different degrees of influence on different sectors. The importance of IPRs varies across sectors depending on the potential value of intangible assets, with and without protection. Even within a given sector, the significance of IPRs may vary depending on the extent of the role played by IP. In a scientific research community, researchers need to use IPRs to some extent to protect their authorship (copyrights) and inventions (patents). However, if the research is in the field of social science, copyright protection is generally sufficient. The manufacturing sector tends to be more creative in order to sustain a competitive advantage, but depending on the industry in question, the role of IP and the significance of IPR can differ significantly. In terms of R&D as a share of total revenue, the pharmaceutical, aerospace, electronics,

electrical equipment and chemicals industries have emerged as the top spenders in the manufacturing sector (Ballance *et al.* 1992: 85).¹⁵

In the pharmaceutical industry, it usually takes 15 to 20 years to discover and develop an efficacious new medicine and bring it to market at the cost of over US\$500 million on average with the staff commitments at a minimum of 200 employees (*op cit.*: 85–90; Anon 1998b).¹⁶ This fact might suggest gross structural inefficiency in this industry, according to Professor Vaver from the Oxford IP Research Centre. Moreover, the fact that many start-up companies conduct individual innovative research much more cheaply than major pharmaceutical companies reinforces the inefficiency. Almost 50% of R&D and drug innovation in the pharmaceutical industry appear to rely on patent protection (Taylor & Silberston 1973: 332). The global trend in this industry is the slow-down in product development and the decrease in effective patent life, but the rise in R&D spending and the increase in research commitment in MNEs (see Ballance *et al.* 1992: Chapter IV for further details). Due to the high cost and long gestation period, IPRs play an extremely important role in the pharmaceutical industry.

Without strong protection, it is argued that most R&D would not be viable, as companies would not be able to recoup their development costs. Taylor & Silberston (1993: 332) found “unmistakable evidence” that “patent protection had a strong and pervasive influence on the willingness of firms to undertake R&D and applying the results”. The importance of IPRs to different industries has been concisely summarised (Table 3). Some inventions are highly codifiable, such as pharmaceutical and chemicals, and need strong protection (*op cit.*: 197). “The difficulties normally associated with information transactions are easily overcome, allowing information to be acquired and used by competitors”. (*op cit.*: 198). As a result, companies in the drug industry are more reliant on IPRs for protection than the sectors, where codification is more difficult, such as textiles and motor industries.

The economic impact of IPRs on the rate and direction of invention and innovation in industries can be very different across industries. For instance, Taylor & Silberston (1973: 346) examined a range of industries¹⁷ in the UK, which had intensive patent activities. On the whole, the impact of IPRs on

¹⁵ Taylor & Silberston (1973: 332) listed pharmaceuticals, crop protection, chemicals, plastic materials and special-purpose industrial chemicals as the industries that patent has had a very powerful impact.

¹⁶ The research cost before the 1990s was around US\$150 million (Ballance *et al.* 1992: 85).

¹⁷ The industries examined, include pharmaceuticals, basic chemicals, finished and specialty chemicals, electronics, mechanical engineering, electrical engineering, man-made fibre, nylon and terylene.

Table 3: Inventions that would not have been developed without patent protection.

Industries	Percentage	Industries	Percentage
Pharmaceuticals	60	Primary Metals	1
Chemicals	38	Instruments	1
Petroleum	25	Office Equipment	0
Machinery	17	Motor Vehicles	0
Fabricated Metal Products	12	Rubber	0
Electrical Equipment	11	Textiles	0

Source: Mansfield (1986).

industrial research and innovation is relatively small, apart from the pharmaceutical industry and research-intensive chemicals, which heavily depend on patent protection. Other chemicals, such as novel plastic materials and sophisticated industrial chemicals also show dependence, but of a low degree. R&D in basic and petroleum chemicals is not much affected. There is even no effect in oil processing and refining (*op cit*).

Further extending the arguments above from previous researchers, that the role of IPP depends upon the characteristics of the industry, Wad divides industries into conventional and new industries based on their history, and high technology and ordinary industries based on their technology levels (Wad 1990: 247). Specifically, the influence of IPP depends on the importance of technology to competitiveness, the nature of the technology involved, the degree and nature of competition in the sector, government policy and the position of the company in question within the industry (*op cit*: 250–252). For example, the significance of technology to competitiveness differs across industries. In conventional industries, such as pharmaceuticals, chemicals, motor vehicles, etc. and in “new” industries, such as software, database suppliers, semi-conductors, etc., “technology” in the broadest sense is a key to a firm’s competitive position (*op cit*). Wad also argues that the nature of the technology and the specific area that requires protection are also important determinants of the role of IPP within an industry. The nature of technology refers to the extent of the intangible content of the industry (i.e. the software industry has a particularly high intangible content). The specific area for protection refers to the centrality of that technology, such as, the core technology of the sector or a new area of technology that will define a

company's future competitive advantage. Moreover, Wad believes that government policy is also important in determining the extent of protection and the role of IPRs (*op cit*). We have already noted the dramatic change in China, from a country with almost no protection to one with the stringent (though not perfect) safeguards, as well as the reasons underlying this shift in policy.

From this brief review above, we conclude that IPP generally has a stronger influence on industries with "high" and "new" technologies and on firms whose competitive advantage stems from intangible assets that require protection. Thus, it is not difficult to conclude that IPP is crucial to many MNEs, although its significance will still vary depending on the sector, technology and market position. When MNEs conduct cross-border ITT into developing countries, any imbalance of the IP system across countries becomes even more crucial.

2.4. Corporate Importance of IPRS

2.4.1. Intellectual Property as a Corporate Asset

Every company, no matter how small or big, has assets. A company is composed of tangible assets and intellectual capital. Figure 6 shows details of the different types of assets. Tangible assets are the physical assets in a company, which can usually be "seen and felt". Examples of tangible assets are company-owned computers, machines and equipment, office desks, company cars, plant, etc. Intellectual capital (IC), which became the new expression replacing "intangible assets" or "intellectual assets" when Tom Steward published "Brain power" in *Fortune*,¹⁸ is ". . . the term given to the combined intangible assets which enable the company to function" (Brooking 1998: 12).¹⁹ A fairly broad definition of intangible assets is, ". . . non-physical assets with a money value" (Pass & Lowes 1993: 264). More specifically, IC is ". . . the sum of a firm's ideas, inventions, technologies, general knowledge, computer programs, designs, data skills, processes, creativity and publications . . . Intellectual capital is knowledge that can be converted into profits" (Sullivan 1999: 133).

¹⁸ Intellectual capital is also called intangible assets, intangible resources and intangible competencies (Hall 1993: 608).

¹⁹ There are "subtle differences" in the meanings of "intellectual capital" and "intellectual assets" (knowledge-based assets), although people tend to use the terms interchangeably. The two items are reflected in different locations on the balance sheet. Intellectual assets appear in the "debit" side of the balance sheet; intellectual capital is in the "credit" side of the balance sheet (see more details from Lynn 1999a; 1999b).

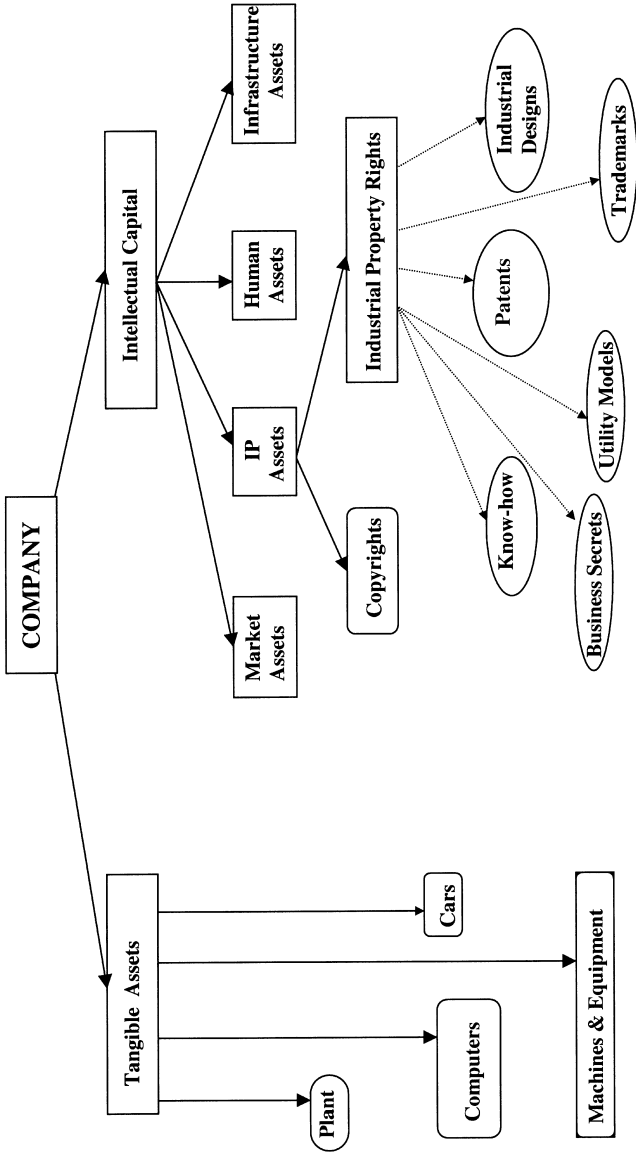


Figure 6: Assets in a company.

Source: Adapted by the author based on Brooking (1998: 13).

Intellectual capital can further be broken down into four parts — market assets, human assets, infrastructure assets and IP assets (Brooking 1998: 15–16).²⁰ Market assets refer to the intangibles that indicate a company's market potential. Brands, customers, distribution channels and agreements, such as licences and franchises, are typical examples of market assets. Human assets are “. . . collective expertise, creative and problem solving capability, leadership, entrepreneurial and managerial skills embodied by employees”. Infrastructure assets make a company function, including technology, methodologies and processes. For instance, corporate culture, a strong Internet presence and sound financial structures are infrastructure assets. The composition of IP, as an asset in a company, need not be repeated here because we dealt with it in the previous chapter. However, three things are worth mentioning relating to different assets.

Firstly, the proportion of different assets varies significantly across companies, depending on the nature of their business. For instance, a big pharmaceutical company is likely to have a large proportion of IP assets in the form of patents for R&D results or trademarks for the new entities that it is marketing. A software company has a similar situation, based on copyright for its software protection. The market assets for a distributor may dominate his or her company, as distribution channels and brands are crucial for the existing business and for its future development. Infrastructure and human assets are very important for companies and institutions, such as banks, insurance companies, accounting service, and consultancy companies.

Secondly, the categorisation of assets is not at all clear-cut, in part because many assets may fit into more than one category. Two examples can make this clear. Know-how undoubtedly belongs to the category of IP. However, most of the know-how is embodied in the employees of a company, often as tacit skills or expertise. Thus, it also belongs to human assets. Therefore, know-how is in the overlapping areas of human and IP assets. Another typical example is licences. Licensing itself, as a contract, falls into the category of market assets. However, if licensing is related to the right to use patented know-how, it covers both IP and market assets. Indeed, the terms of a licence agreement may also involve the provision of training to the licensee's employees, which therefore also relates to human capital.

Thirdly, the value of IP may differ depending on one's perspective and the degree of legal protection that it gets. Value here refers to, “. . . a measure of the utility that ownership of an item brings to its owner” (Sullivan 1999: 134).

²⁰ Intellectual capital is also divided into human capital, structural capital and relational (customer) capital (Lynn 1999: 592).

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To artists and writers, the value may be the pleasure their works give to the viewers and readers. To innovators and inventors, it is the functionality of the technological solutions to a product or process. To accountants, it is the accuracy of historical expenditure. The value to economists can be in terms of the addition to utility or the increases in revenue or profit flows, measured in money terms (*op cit*).

2.4.2. Ignored Intangibles in a Company

Companies often fail to pay sufficient attention to intellectual capital, including IP assets. Evidence of neglect can be found in both theory and practice. Theoretically, accountants and economists both find it difficult to value IC because no coherent methods exist to aid the valuation process. There are also difficulties in devising an acceptable taxonomy that can be applied without significant adjustments in any situation (Hall 1993: 607). As Hall has described, “. . . intangible resources have not been treated as a coherent subject with an identifiable taxonomy” (*op cit*). Steven Wallman, Commissioner of the Securities and Exchange Commission of the USA, said, “Because of their [intangible assets] increasing importance, we must learn to better measure and account for these assets and reflect that [knowledge] in the financial reports of corporations” (Smith & Parr 2000: 146). Conventional accounting methods cannot quantify the value of a company’s IP because they generally record past and current *flows* of assets. The main problem with this, however, is that IP and other intangible assets impact on the future value of the company, which is difficult to reflect on the balance sheet, at least using traditional accounting methods (Hall 1993: 607; Brooking 1998: 178).²¹

The existing “accounting” methods of valuation show deficiencies when applied to intangible assets (Brooking 1998: 181–182). Firstly, the cost-based approach makes the assumption that historical cost can be equated with the economic value that the assets can create. This is clearly particularly deficient when investments are subject to risk, as in many investments in developing new technologies. For example, the development of a new pharmaceutical product may have incurred millions of pounds of R&D expenditure, but if the product have no benefit for patients (or has adverse effects), the end value of this

²¹ Smith and Parr (2000: 116) illustrate four reasons why accountants are concerned about including intangibles and IP, which are either inconsistently presented or not contained, in financial statements. They are requirements for forecasting, unclear definitions, imprecise methods for valuation and unclear economic life.

research in terms of additional revenues is effectively zero. Moreover, some other elements, such as the “. . . physical, functional, economic and legal life of the asset” may also influence this approach. For instance, a patent will generally have a different value at the beginning and end of the patent term. Changes in patent life can produce changes in the value of the patented invention. For example, Glaxo’s shares rose in value following the increase in the US patent life from 17 to 20 years. Secondly, the market-based approach, judges the technology value based on the general consensus in the market. In order to inform these decisions, the market should be very active and public. This hypothesis does not work in reality. Thirdly, the income approach depends on the present value of cash flows — “discounted case flow” approach. The valuation must utilise an appropriate discount rate from a rate of return model. This is the major disadvantage of the method, as different companies have different preferences for the model.²²

Apart from the theoretical barriers, the traditional perception that intangible assets depreciate with time — to end up with zero value — also negatively influences their valuation (Brooking 1998: 178). While we do not dispute the principle of depreciation, it is not inevitable, not least because firms invest in their maintenance (i.e. through new R&D programmes, advertising activities, etc.). The nature of markets has also been changing in a manner that tends to counter any inherent depreciation. In a globalised world, trademarks may increase their value over time, as global media coverage further enhances a company’s brand image. Business secrets and know-how may become more valuable with time insofar as they stay undisclosed, but the market for the associated product expands. For example, only four executives of the Coca-Cola company know the formula of the 18 ingredients. The Kentucky Fried Chicken recipe is also only kept by a small group of people and mixed in three different locations (Fisher 2001: 11). In reality, it is quite true that royalties from patent licensing may depreciate towards the end of the fixed, 20-year life of the patent. Indeed, this traditional philosophy has played an important role in China, providing the rationale for the upper IP-limit of 25% of the total investment capital in a joint venture.

As a result of the theoretical and traditional prohibition, there is little attempt to value the intangibles in practice, although there is a widespread acknowledgement of the importance of such assets (Hall 1993: 607). Often,

²² Grandstrand (1999: 243) also categorised reputation-based valuation methods into the general valuation approach. In other words, the valuation relies on indirect indicators or indices that correlate with IP to calculate IP value, such as brand awareness, brand coverage, brand loyalty, etc., but this method applies more to trademarks.

Table 4: GrandMet acquisition (£bn).

Acquired Company	Pillsbury	Pet
Brands	2.7	3.8
Other Assets	6.9	7.3
Liabilities (mainly Debt)	(6.7)	(7.7)
Net Assets	2.9	3.4

Source: Compiled by D. Yang based on Corbett (1997).

valuation is only carried out when a transaction, such as a merger or acquisition involving IP or goodwill, must, somewhere, appear on the balance sheet (Brooking 1998: 11, 177). The example above shows how important IP is in company acquisition. GrandMet is a food and drink giant, a pioneer in putting brand value on the balance sheet. Both of the acquired companies by GrandMet were in food business based in the USA. Table 4 shows that, without brand capitalisation, the balance sheet would have shown a very different result and the perceived performance of the company could have been significantly affected.

A survey of the *Financial Times* 500 companies has concluded that 76% of the 226 respondents had not “. . . assigned any value to intangible assets in their annual reports” (*op cit*: 11). This survey indicates that the majority of the companies have very little knowledge about the significance of their intangible assets. However, another example indicates that changes in attitudes towards intangible assets are taking place. A survey of 370 acquisitions carried out by the UK Accounting Standards Board points out that goodwill increased from only 1% of the net worth pre-acquisition in 1976 to 44% in 1987 (*op cit*: 176). Some large companies have already recognised the crucial importance of valuing their intangibles. There are many examples, such as Hewlett-Packard, Dow Chemical, IBM, Diageo, Iona Technology, and Arthur Anderson (Lynn 1999; Poynder *et al.* 1999; Smith & Parr 1999). The dramatic change reflects the increasing importance of intangible assets, and the growing attention they are attracting from a corporate perspective.

2.4.3. Corporate Significance of Intellectual Property

The above section shows companies have not placed sufficient emphasis on their intangible assets, including IP, therefore, it is vital to establish the

Table 5: Intangible-oriented companies.

Companies	Industry	Intangible Value (%)*	Total Intangibles
Disney	Entertainment	70.9	} US\$ 1.2 Trillion
Heinz	Food	84.6	
Johnson & Johnson	Medical	87.9	
Merck & Company	Pharmaceutical	93.5	
Microsoft	Computer Software	97.8	
Minnesota Mining and Manufacturing (3M)	Industrial	71.8	
Philip Morris	Tobacco	78.8	
Nike	Apparel	76	
Proctor and Gamble	Consumer	88.5	
Yahoo	Internet	98.9	

Note: * Intangible value as a percentage of invested capital.

Source: Compiled by D. Yang based on Smith & Parr (2000: 123–149).

importance of intangibles to ensure their appropriate management to maximise company performance and development. As we described earlier, invention and innovation are often crucial in maintaining a company's competitive edge. Thus, when a patent is granted to a company, it gives a time-limited monopoly to the company, which prevents others from illegally copying the invention and stops independent re-invention. If the invention is potentially commercially valuable, the patent enables the company to recoup its associated expenditure on R&D, to make profits (that can help fund future R&D) and to compensate for any loss arising from failed inventions. This points to not only the potential importance of IPP, but also the central role to be played by the effective corporate management of IP. The examples below help to illustrate the potential importance of IP (and, thereby, IPRs) in companies. Table 5 shows the dominance of IP in some intangible-oriented companies. Companies like Microsoft and Yahoo almost completely rely on intangible assets to support their companies.

The example in Table 6 about a software company shows more clearly and specifically the asset distribution (Brookings 1998: 180). A software company

Table 6: Assets distribution in a software company with six employees.

Tangibles	Intangibles
Computers	Copyrights for Software
Desks	Human Assets (six employees)
Chairs	Infrastructure Assets
Telephones	Market Assets (on line network)
Total: \$35,000	Invaluable

Source: Brookings (1998: 180).

of six employees might have an asset distribution as shown in the table. The tangible assets of the company are very tiny, and likely to be smaller in magnitude even than the salary bill for the six employees. However, the company's major assets are on the intangible side, especially the copyright for software. The ability to generate new and commercially valuable software reflects the human capital of the company and represents its area of core competence.

Table 7 shows ten of the most valuable companies in the world. All of them possess more IC than tangible assets. The ratio of market value to book value roughly indicates the importance of IP to companies (Grandstrand 1999: 10–16).²³ The results indicate that Microsoft has a high market value and high profit with comparatively low capital investments. It should also be noted that most of the companies in the table are R&D intensive. The Kodama ratios show that some firms are research-oriented, such as Microsoft and Novartis, and some companies are more manufacturing and capital-intensive, such as the oil companies (*op cit*).

Table 8 further proves the importance of IP by setting out a number of court cases. It is worth mentioning the top two cases here. The largest damage-based infringement verdict was at US\$1,200 million between Litton and Honeywell in 1993. However, Honeywell's request to set aside the jury's verdict was

²³ Market value refers to "collective, subjective measurements based on continuously changing external valuations of a company's stock". Usually, a short-run reduction in market value indicates a reduction in intangibles because equity is fixed in the short run. This can be inaccurate when IC is too dependent on the volatility and well functioning of the financial markets. Therefore, this ratio only provides rough estimates. (Grandstrand 1999: 15–16).

Table 7: Intellectual property in the world's most valuable companies (US\$ million).

Company	Market Value	Profit Margin (%) ¹	Equity	IC	Market-To-Book Ratio ²	Sales	R&D	Capital Investments ³	R&D Intensity	IC Per Employee	Kodama Ratio ⁴
General Electric	222748	12.3	34438	188310	6.5	90840	1891	8222	2.1	0.9	0.23
Royal Dutch/Shell	191002	8.9	76639	114363	2.5	171657	701	11683	0.4	1.1	0.06
Microsoft	159660	46.8	10777	148883	14.8	11358	1925	499	16.9	6.7	3.86
Exxon	157970	9.3	43660	114310	3.6	137242	529	7557	0.4	1.4	0.07
Coca-Cola	151288	32.1	7311	143977	20.7	18868	*	*	*	4.8	*
Intel Corp.	150838	42.5	19295	131543	7.8	25070	2347	4513	9.4	2.1	0.52
Nippon T&T	146139	5.9	43068	103071	3.4	71143	2649	24082	3.7	0.4	0.11
Merck	120757	27.3	12616	108143	9.6	23637	1684	1452	7.1	2.0	1.16
Toyota	116585	5.8	45781	70804	2.5	98741	3200	4706	3.2	0.7	0.68
Novartis	104468	26.5	22432	82036	4.7	26098	3091	1288	11.8	0.9	2.40

*Notes:*¹ Profit margin refers to income before tax divided by total revenue.² The market-to-book ratio = market value/book value (equity).³ Capital investments mean long term investments, e.g. purchase of building and shares.⁴ The Kodama ratio = R&D expenditure/capital investments.

* Numbers are not available due to confidentiality.

Source: *Financial Times* (1997) quoted by Granstrand (1999: 11).

Table 8: Largest patent infringement damages in the USA before 1995.

Patent Right Holder	Damages*	Infringer	Year
Litton (US)	1200.0	Honeywell (US)	1995
Polaroid (US)	873.2	Kodak (US)	1991
Alpex Computer (US)	253.0	Nintendo (Japan)	1994
Smith International (US)	204.0	Hughes Tool Co. (US)	1986
Honeywell (US)	166.0	Minolta (Japan)	1994
Stac Electronics (US)	120.0	Microsoft (US)	1994
Hughes Aircraft (US)	114.0	USA	1994
3M (US)	106.0	Johnson & Johnson (US)	1991
Lubrizol I Corp. (US)	86.0	Exxon (US)	1988
Pfizer (US)	55.8	International Rectifier (US)	1983
Shiley (US)	44.8	Bentley Labs (US)	1985
Jan R. Coyle (US, Individual)	43.0	Sega Corp. (Japan)	1992
B&H Manufacturing (US)	36.5	Owens-Illinois Glass (US)	1991
Syntex (US)	36.5	Paragon Optical (US)	1987
Trans-World Manufacturing (US)	31.3	Dura Corp & Kiddie (US)	1986

Note: * Excluding legal fees in US\$ million.

Source: Grandstrand (1999: 6).

granted in 1995. The compensation from Eastman Kodak to Polaroid is therefore the largest to date. Polaroid instituted litigation against Kodak for its infringement of Polaroid's instant photography patents. The court decided that Kodak should pay US\$873 million to Polaroid and shut down all related operations (Hufker & Alpert 1994: 53). In fact, Kodak also paid voluntary damages to customers. The total cost for Kodak was therefore higher than the amount shown in the table (Grandstrand 1999: 7). Another two cases in the table are also worth noting here. The case of Hughes Aircraft was the largest patent infringement judgement against the US government (Anon 1994: 1). Jan. R. Coyle against Sega Corporation in Japan is one of the largest cases of patent infringement compensation paid to an individual. The jury awarded a payment at US\$33 million in damages, but Sega settled for US\$43 million because the award could have been trebled if intentional infringement had been found by the court (Anon 1992: 1).

2.5. Corporate Management Strategies on Intellectual Property Flows

The fierce competition in technology brings corporate management of IP to the forefront. IP management means that firms, "... with significant legally protected intellectual assets focus on generating more intellectual properties as well as on leveraging them in the marketplace" (Sullivan 1999: 135). IPRs have only attracted attention from a management perspective in the 1980s. With the increasing importance of technology in the 21st century, the significance of IPP has grown, as management seeks to recoup high R&D costs, and looked to the profit incentives to justify further invention and innovation. Therefore, IPRs have moved on from the subject matter of "legal encyclopaedias", to practical, technical instructions for engineers and managers to IPP, to become an increasingly important element within corporate strategy.

It has been argued that there are four general strategies relevant to patent management in companies involved with IP flows — defensive strategy, prospecting strategy, co-operative strategy and marketing strategy (Hufker & Alpert 1994). Each strategy comprises a number of sub-strategies (see Figure 7). Marketing strategy includes both licensing and R&D components. Licensing is the authorisation in the form of a contract between the owner and the recipient of the technology. The contract will define the exploitation of the technology for a specific purpose, for a limited time period, and the royalty to be paid (Apke 1998: 5). It is one of the commonest strategies used by companies to benefit from IP flows because it can bring quick returns and avoid



Figure 7: Managerial strategies on IP flows.

Source: Based on Hufker & Alpert (1994: 48).

the risks of undertaking in-house R&D. Licensing agreements involving IP flows are very common in China. For instance, China signed 97 national licensing contracts for technology, with a total value of US\$1,675 million in 1996 (MOFTEC 1998: 62). In contrast, an in-house R&D-based strategy, which develops new products through original research, is more costly in time, money and human assets with a high risk of failure and a danger of infringement. However, such a strategy has the potential to generate original products, with much higher profits if protected appropriately by IPRs.

The defensive strategy can also be divided into two sub-strategies — accumulating, and patenting improvements and processes. Accumulating related patents refers to the purchase of IPRs for a new product that is threatening the existing product. This strategy can prevent direct competition from competitors by introducing substitutes, thereby, fortifying the firm’s market position. However, this accumulation process can be costly and may be viewed as violation, e.g. of anti-trust law in the US. This is because “patent law in the US does not completely supersede anti-trust law. Anti-competitive behaviour may be in violation of the Sherman Act” (Hufker & Alpert 1994: 49). The process of accumulation usually involves searching IP files, negotiating licences or assignments with the IP holders, and making these technologies potentially operable through R&D. Another sub-strategy is to conceptualise in advance all the improvements and modifications that may be made to current

technologies, including those of competitors. This innovation-based strategy is more proactive and future-oriented. It is based on continuous improvement of existing technologies in order to sustain a competitive advantage. It helps to extend the product life cycle as well as the term of protection through innovation. Moreover, it exploits competitors' weaknesses by beating them to the invention or by maintaining the ability to rapidly imitate their product developments.

The third tactic is a co-operative strategy. The most commonly used method is cross licensing by co-operative arrangements in developed countries, i.e. two or more competitors co-operate in order to share the technologies under the same terms and conditions. This collaboration can be in the best interests of both the public and companies insofar as it results in more rapid standardisation and diffusion of technologies. Meanwhile, it promotes allies. Nonetheless, extensive IP pooling in this way may also violate anti-trust laws by effectively entering into a collusive agreement — the outcome of which is similar to a monopoly, which limits access by new entrants.

The prospecting strategy includes bibliometrics and benchmarking. Bibliometrics relates to a statistical analysis of scientific papers and patent specifications in order to isolate those that are important to the company's current and potential future lines of business (Hufker & Alpert 1994: 49). Work is then undertaken to produce a substitute that improves on the original, with a view to improving the existing market position or entering a new market. This strategy is widely used by technology-driven companies because it allows them to monitor competitors' technological activities, keep abreast of developments in relevant technologies, and assess their technological competitiveness *vis a vis* other companies. The data surveys involved, also provide vital information that enables the effective management of technology through techniques, such as benchmarking. Monitoring may be combined with reverse engineering, which can enable the legal exploitation of new products and technologies for imitation and improvement, if they are not fully protected by IPRs. It is a shortcut to legally obtain the information and knowledge created by others. Moreover, companies can pool the best technological features together for new improvements.

A survey reveals the sources of information about competitors' products (Nelson 1990 quoted by Patel & Pavitt 1995). In this survey, more than 600 industrial R&D directors in 130 lines of business were interviewed (Table 9). As a result, R&D and reverse engineering are the two most important means of learning about competitors' product information and technology. Licensing plays a relatively small role in acquiring competitors' product innovation (*op cit*: 18–19).

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Table 9: Effectiveness of different means of learning about competitors' product innovation.

Means of Learning	5 or Higher	6 or Higher
Licensing	17	4
Patent Disclosures	24	5
Publications or Open Technical Meetings	20	8
Consultations with Employees of the Innovating Firm	21	8
Hiring Employees from Innovating Firms	33	8
Reverse Engineering	65	22
Independent R&D	84	19

Note: 1–7 are scales with 1 referring no importance and 7 most important.

Source: Nelson (1990) quoted by Patel & Pavitt (1995: 19).

It is worth noting that the above management strategies with respect to IP have some common features. Firstly, most of the strategies are widely adopted in developed countries. For instance, many large MNEs have allies with whom they share technologies, namely strategic alliances. This is not generally the case in China because most research entities and enterprises are competitors rather than partners. Additionally, institution-corporate collaboration has only become important since the introduction of the open door policy. Secondly, these strategies indicate how companies can benefit most from their technologies, such as in-house exploitation and/or licensing. Thirdly, these strategies show the significance of learning from competitors, as indicated by the use of bibliometrics and benchmarking. It is not enough to have one's own science and technology, it is just as important, if not more so, to keep abreast of competitors' developments. As the *Art of War* pointed out, "Know yourself, know the rivals, you can win hundreds of wars without being defeated". Therefore, it is not surprising to see that most technology-driven, "world class" companies are targeted by their competitors, and their IP and technology are perpetual danger of being stripped (Coulson-Thomas 1997: 206). Finally, these strategies also provide insights about how companies seek to sustain their technological advantage, such as original research, accumulation of related IP, continuous patenting of improvements and processes. Technology is not static — in order to maintain a competitive edge, a company must sustain its technological vitality.

Summary and Conclusions

This chapter serves the purpose of establishing a basic theoretical understanding of IPRs. It starts with the clarification of the definition of IPRs, their different forms and common features. IPRs are legal rights given to people over their “creations of mind”, which include protection through mainly patents, trademarks, industrial designs and copyrights. The present study mainly focuses on the industrial aspect of IP. Differing forms of IPRs share the same features of intangibility, exclusivity, legality, and territoriality. They have a clear distinction from, but also a strong link to intangible assets, goodwill, intellectual capital, industrial property rights, intellectual assets, knowledge management and ITT. As a subject, IP is rapidly expanding from disciplinary, i.e. law, to interdisciplinary, i.e. economics, sociology, history, trade, philosophy, politics and technology management. However, the coverage of IP from a corporate management perspective is rare and, where it does occur, it tends to be in the form of practical, instructive descriptions.

From a corporate perspective, IPRs have a direct but different influence on different sectors of the economy. Their role depends on the role of technological change in determining competitiveness, the nature of technology, degree of competition, government policy and positioning of the companies in the industry. Equally, the influence of IPRs can also differ across companies, in particular, depending on the importance of IC. Four general strategies have been identified by which companies manage their IP flows, including, licensing or R&D-based marketing strategies, defensive strategies, cross licensing and prospecting strategies. These strategies lead companies to recoup technology-related costs, exploit competitors and sustain their own technology development. Nonetheless, on balance, companies still do not pay sufficient attention to IP and IPRs because of traditional biases and theoretical barriers, not least the lack of a recognised, unified methodological framework for the valuation of IP.

Chapter 3

International Harmonisation of Intellectual Property

Introduction

While globalisation has blurred national borders, nation-based IP laws often created conflicts in the process of international IP flows. Thus, globalisation with its associated growth in trade, FDI and ITT, has produced considerable pressure for the international harmonisation of IPRs. The purpose of this chapter is to elaborate the significance of international organisations in harmonising IPP in the world. The discussion on international harmonisation lies in its importance to our understanding of the establishment and evolution of the IP system in China. Specifically, this chapter will:

- briefly introduce the two important IP organisations that have been intimately involved in these developments — WIPO and the WTO, and outline their functions;
- introduce the key conventions and agreements, although not attempting an exhaustive treatment;
- briefly describe the relationships between the developed and developing world with respect to IPRs.

3.1. International Organisations and Functions

3.1.1. *World Intellectual Property Organisation*

WIPO is one of the 16 specialised agencies of the United Nations (www.wipo.org). It is dedicated to the promotion of IPP in the world through international co-operation and the administration of multilateral treaties dealing with the legal and administrative aspects of IP (*op cit*). So far, over 179

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countries are the members of WIPO (*op cit*). More specifically, WIPO has dedicated itself since 1883 to administering international treaties, harmonising the rules and practices, and ensuring the recognition and world-wide protection of IP. This dedication has pushed forward the development of science and technology, and enrichment of arts and literature across national boundaries (*op cit*). The major functions of the organisation are clearly indicated as to:

- “(1) harmonise national intellectual property legislation and procedures;
- (2) provide services for international applications for industrial property rights;
- (3) exchange intellectual property information;
- (4) provide legal and technical assistance to developing and other countries;
- (5) facilitate the resolution of private intellectual property disputes; and
- (6) marshal information technology as a tool for storing, accessing, and using valuable intellectual property information” (*op cit*).

It can clearly be seen from above that WIPO plays a pivotal role in the global harmonisation of IPP, especially in enhancing co-operation with developing countries. This has raised concern from many developed countries. In WIPO, more than half of the members are developing countries, which have dominated the unweighted vote. The US and other developed countries, therefore, think that a strong and adequate protection will be difficult to achieve in the developing world. This is perhaps part of the reasons for the formation of the WTO.

3.1.2. World Trade Organisation

The WTO is “. . . the only international organisation dealing with the global rules of trade between nations” to ensure smooth, predictable and free flow of trade (www.wto.org). So far, it has 144 member countries, accounting for more than 97% of the world trade (*op cit*). China became a member in November, 2001. The function of the WTO includes:

- “(1) administering WTO trade agreements;

- (2) forum for trade negotiations;
- (3) handling trade disputes;
- (4) monitoring national trade policies;
- (5) technical assistance and training for developing countries;
- (6) cooperation with other international organisations” (*op cit*).

Although the WTO was only established in 1995, the heart of the multilateral trading system under GATT had already existed for over 50 years. The associated agreements provide legal grounds for international trade. Currently, the agreements include goods, services, IP, dispute settlement and policy review. IPR was only formally linked with trade when the Uruguay round negotiations started in 1986. The signing of the *TRIPS* agreement amongst participating countries in 1995 symbolised that IP protection was an important dimension of international trade. China has been actively involved in the *TRIPS* negotiation, although it was not a member initially when *TRIPS* was signed. The reasons for it becoming a member have been spelt out in the background section.

With co-ordination by WIPO and the WTO, a world of IPP harmonisation can be constructed over time. This harmonisation will be realised with more countries joining WIPO and the WTO. Now, the EU, what Wegner (1996) called the “club of 15”, has realised the importance of regional harmonisation. The “trilateral group” — the European, Japanese and US Patent Offices have also served “a valuable harmonisation function”. Now, it is time for China to participate and influence the harmonisation. Thus, a quadrilateral forum can be possibly created for future IP co-operation (Wegner 1996: 47).

3.2. Treaties, Conventions and Agreements

The heart of international IP harmonisation and protection lies in treaties, conventions and agreements administered under WIPO and the WTO. Until now, WIPO has administered 23 conventions and treaties relating to IPP, including two with other international organisations (www.wipo.org). The WTO administered the *TRIPS* agreement. A summary of the treaties, conventions and agreements can be found in Appendix C. It includes the years the treaties, conventions and agreements were signed, last-amended and their major purposes. These treaties, conventions and agreements serve the common purpose, that of protecting the interests of contracting countries regarding IPRs and harmonising the nation-based systems of IPP.

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It is worth noting here, though, the implications of the most recently signed agreement — *TRIPS*:

- The agreement symbolised the significance of IPP in the context of trade and services. A direct link between trade and services, and IPP can further enhance the trading prosperity and fairness by reducing the distortions and impediments;
- *TRIPS*, to some extent, reinforced the existing conventions. It has produced an element of conflict between the perceived interests of developing and developed countries with respect to IP because of the inadequacies of IPP amongst developing countries. However, it has also provided a mechanism for co-ordination and conflict resolution through international negotiations and discussion. Therefore, *TRIPS* has accelerated the consummation and enforcement of IPP in the developing world to narrow IP gap with developed countries. China is a typical case in point. It started the formation of its IPR system in 1985 and, by 1995, it had established a systematic IPP and ratified a wide range of agreements and conventions. This will be very specifically elaborated in the subsequent chapters;
- The dispute settlement mechanism has been strengthened as an objective of the Uruguay Round. The legal recourse for WIPO was to go to the International Court of Justice, which is “slow, costly, its orders lacked sanctions, and a potential defendant could refuse to accept the court’s jurisdiction” (Vaver 2000). *TRIPS* “reduces the scope of trade disputes and to encourage their speedy and effective resolution” with clear IP obligations, fair and equal access to both developed and developing countries, and detailed procedures (*op cit*). Meanwhile, this mechanism will prevent countries, which are adversely affected by weak protection, from instituting unilateral measures. The typical example is the historical use of “Special 301” by the USA (see details in Chapter 1). It is possible, therefore, that *TRIPS* will help to enhance world IP harmonisation;
- It implies co-operation between WIPO and the WTO regarding IPP issues. Both WIPO and the WTO have clearly indicated their willingness to co-operate in world IPP.¹

¹ See details from the *Agreement between the World Intellectual Property Organisation and the World Trade Organisation*.

3.3. Developed and Developing IP Regimes

IPP is often raised as a developed-developing-country issue, principally because of the distinction between the IPP objectives and the different degrees of protection and enforcement in the two groups of countries (Benko 1987; Mody 1990). IPP had initially been discussed only in developed countries, but it became an increasingly important topic in developing countries during the course of the post-War period, especially since the late 1970s. Developing countries, such as Brazil, India, Korea and China came under great pressure from developed countries to introduce protection. Thus, much of the theory and practice has evolved in developed countries, and evidence from developing countries remains scanty.

Developed countries have exerted significant influence on IPP in developing countries in three respects (Mody 1990: 234). Firstly, the level of IPP has been increased to enhance the protection for both conventional technology and new technology. Secondly, the price of new technology has been raised for the purpose of recouping the ever-increasing costs of invention and innovation. Thirdly, like developed countries, developing countries are becoming more and more concerned about access to, and utilisation of, information technology because a strong protection system can give a better diffusion of technology.

In addition, developing countries do benefit from IPP again in three respects (*op cit*). Firstly, the principal benefit occurs in their ability to participate in open-market world trade. China is a good example. China's continual improvements to its IP system, including software protection under copyright laws, has reflected China's need to vitalise its open economy. Secondly, with the improvement of the IPR system, developing countries can have a better access to advanced technology because of the willingness of developed countries to supply knowledge and products. This implies that developing countries can also, directly through the ITT and indirectly *via* the resulting spillover effects of the investment and new technology, foster indigenous innovation, labour training, collaboration between MNEs and the development of local firms. Thirdly, IPP enhances co-operation with the developed world in trade and FDI.

The US has been leading the promotion of IPP throughout the world, especially in developing countries. This is not only because of the comparative advantage of the US in technology generation, but also, more importantly, due to its net export position in technology. Hence, in enhancing international IPP and legislative control and enforcement, the US has been the initiator (Mody 1990: 203). Meanwhile, although it indirectly enhances alliances amongst the

developed world, the US has also urged developed countries into the arguments for their own, but often different national interests.

The most obvious dissenter from this hegemony is Japan, because Japan has a significantly different IPP system from other developed countries (Bosworth & Yang 2002: footnote 22). The EU countries have also revealed their areas of differences. However, a number of the most obvious conflicts in the developed world have been resolved, although some differences still exist (*op cit*). The major conflicts in IP are between the developed and developing world, as most developing countries are still at the early stages of their IP system formation, or at least of their IP enforcement.

Summary and Conclusions

As an international issue, IP is gaining a great deal of attention world-wide, with the growing significance of globalisation. Therefore, the two IP-related international organisations, WIPO and the WTO are playing a pivotal role in the harmonisation of world IPP. The harmonisation is reflected in the different conventions and agreements, and in the more recent international forms of protection for IP. However, the North-South gap in the extent of IPP still remains wide, and will take some time to narrow. China and the US are typical examples from the developing and developed world in this regard.

Chapter 4

Intellectual Property System in China

Introduction

Clearly shown from the previous chapter, international harmonisation is playing a significant role, however, IPR is still nation-based. In other words, nations remain the major players of IPP and administration for the economic benefit of individual countries. The national base of IPP can be seen from the different stipulations in international conventions. For instance, the Paris Convention and *TRIPS* are both based on national principles and the concept that national treatment should bind the member countries (Paris Convention: Article 2–3; *TRIPS*: Article 3). In addition, *TRIPS* also imposes a most-favoured-nation obligation. In other words, advantages accorded to non-WTO countries by one WTO member must also be accorded to all WTO members (*TRIPS* 1995: Article 4). The national foundation of IPRs implies that every country, to some degree, imposes different IPP, based on national requirements beyond the minimum standards and obligations they incur as a member country in the international treaties, conventions and agreements.

The objectives of this chapter are to systematically review the current IP system in China. In other words, the chapter intends to outline the triple IP system in China — legislative guidance, administrative control and judicial enforcement. The “triple IP system” refers to the three interrelated national powers of IP, i.e. legislative guidance, administrative control and judicial enforcement (Figure 8). Legislative guidance means the Chinese legislative system and mechanism in guiding the IP activities and protecting IPRs. Administrative control refers to the administrative organs and their function in IP applications, examinations, approval and protection. Judicial enforcement refers to the court system and its function in dealing with IP disputes. To aid understanding of this special system, Figure 9 shows the general structure of the Chinese government. This figure indicates the position of the “triple power” and other relevant organisations in the Chinese government. The functions of

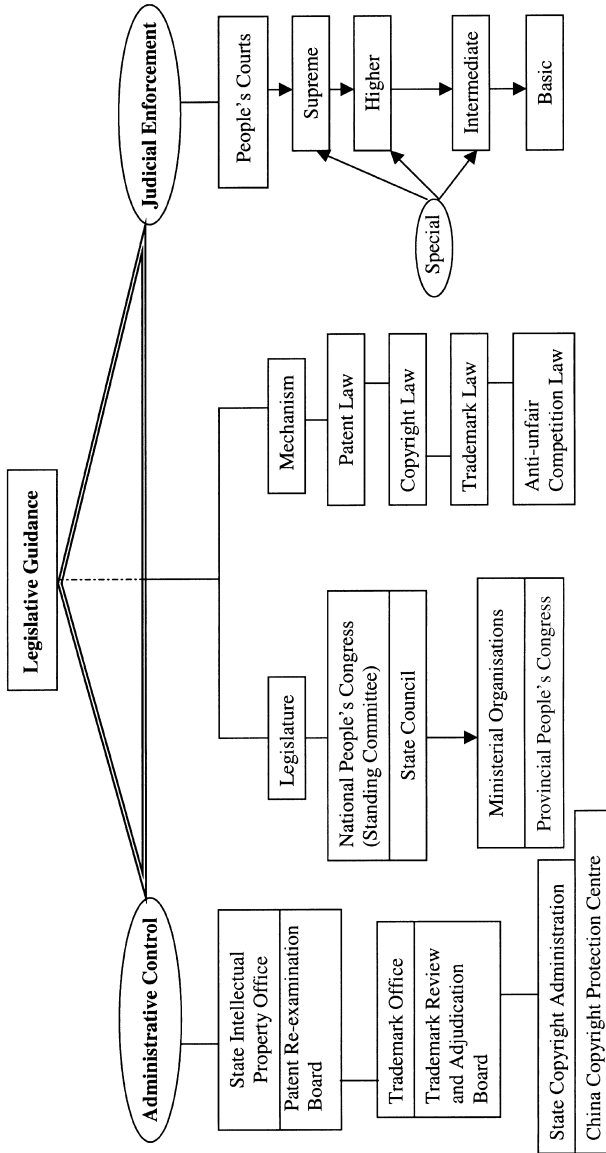


Figure 8: Triple intellectual property system in China.

Source: Created by Yang based on the understanding of the Chinese government structure.

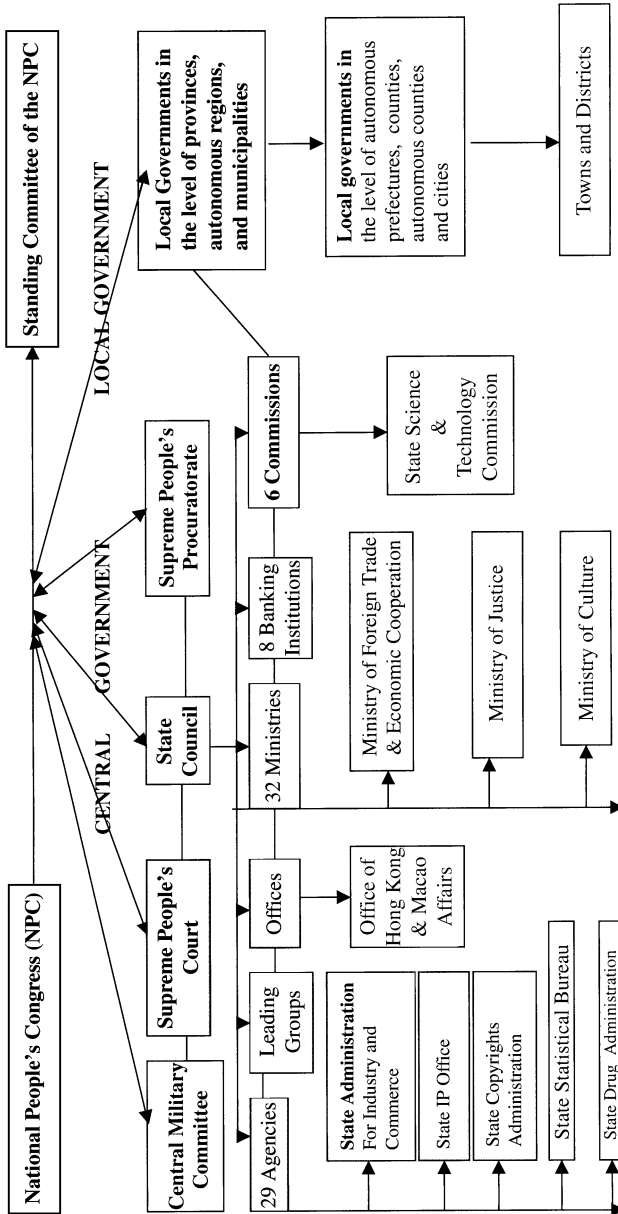


Figure 9: Government structure and the triple intellectual property system.

Note: (1) The figure does not intend to show all the central government organisations but just give some relevant examples for this study. (2) The figure is based on the author's knowledge and understanding of the constitution.
 Source: Created by Yang.

different organisations will be spelt out below as we elaborate on this “triple system”.

4.1. Legislative Guidance

4.1.1. Two-Tier Legislative System

China has two layers of legislative organisations. In other words, both the central government, and its ministerial and provincial government organisations have the power to introduce legislation and regulations (see Figure 9).¹ The highest tier of legislative power is the National People’s Congress (NPC) (*Constitution of the PRC* 1993: Article 58). Members are elected from different ministerial, provincial and autonomous regions for a term of five years, but meet only once a year (*op cit*: Article 59–61). Its legislative function includes amendment of the constitution and enactment of laws; supervision of the enforcement of the above laws; and nominations and removals of presidents of the Supreme People’s Court (*op cit*: Article 62–63). The NPC functions through the Standing Committee — a permanent body of the NPC.

The major legal function of the Standing Committee includes:

- (1) interpretation of the laws and supervision of its enforcement;
- (2) examination of the regulations promulgated by the State Council and second tier of the legislature;
- (3) appointment and removal of vice presidents and judges of the Supreme People’s Court and members of the Judicial Committee;
- (4) enactment and amendment of laws “with the exception of those which should be enacted by the NPC”, which has been the most important function since 1987 (*op cit*: Article 67.2). The State Council, as the highest administrative body of the state, is responsible for drafting legislative bills for submission to the NPC or its Standing Committee.

The second tier of the legislative power comprises the local people’s congresses and their standing committees in provincial, autonomous regional and

¹ “All administrative, judicial and procuratorial organs of the state are created by the people’s congresses to which they are responsible and by which they are supervised” (*The Constitution Law of the PRC*: Article 3). “The national people’s congress and its standing committee exercise the legislative power of the state” (*op cit*: Article 58). Provincial and municipal people’s congresses can adopt local regulations, but report to the standing committee (*op cit*: Article 100).

municipal city level governments, and also the ministerial governments under the State Council.² It can issue rules and regulations based on local needs and requirements, which must be in line with the *Constitution* and laws from the first tier (*op cit*: Article 90, 100 and 116). In addition, all these issued rules and regulations must be reported to the first tier directly for approval by autonomous regions or for record by provincial level government through local people's congresses and be reported by the ministerial-level governments to the State Council (*op cit*).³

4.1.2. Intellectual Property Mechanism

The “IP mechanism” refers to the body of IP laws and regulations. It began taking shape systematically in China in 1982 when the trademark law was promulgated. In a period of just over a decade, China has made remarkable progress in promulgating a range of different IP laws. In addition, through a series of revisions, the legal framework has been gradually evolved from ambiguity to relative clarity. A summary of the different IP laws can be seen from Table 10. We propose only to go a little further than the summary in spelling out the different laws.

The current *Patent Law*⁴ was based on the *Patent Law* of 1984, with its major amendment and implementation in 1992 and 2001. Four other laws and regulations relating to patents⁵ were also promulgated around 1992. The law is based upon a first-to-file patent system.⁶ The *Patent Law* and other patent regulations protect three rights — inventions, utility models and industrial

² The ministerial-level central government organisations include agencies, leading groups, offices, ministries, commissions and banking institutions.

³ The rules and regulations promulgated by autonomous regions must be submitted to the Standing Committee of the NPC for approval. The rules and regulations announced by provinces and municipalities must be reported to the Standing Committee of the NPC for record.

⁴ The current *Patent Law* refers to the *Patent Law of the People's Republic of China*, 2001.

⁵ Other laws and regulations relating to patents are *The Regulation on Patent Commissioning* (April 1991); *The Implementing Regulations for the Patent Law of the People's Republic of China* (December 1992); *Answers Given by the Supreme People's Court to Questions on Hearing of Cases of Patent Dispute* (December 1992) and *the Provisions on the Implementation of Patent Cooperation Treaty in China* (November 1993).

⁶ First-to-file: the first applicant(s) to file for the same patent or trademark should have the priority to acquire the patent right or the trademark right. The first filling date is either the date on which SIPO or the Trademark Office receives the application if applying in person or the postmark indicating the date of sending if the application is by mail.

Table 10: A brief summary of IP laws in China.

	Invention	Utility Model	Industrial Design	Trademark
Major Law First Promulgation Amendments, and the Current version		Patent 1984 1992, 2001		Trademark 1982 1993, 2001
Subjects	Investor(s), creator(s) and/or assignee(s)	Investor(s), creator(s) and/or assignee(s)	Industrial design	Registrants
Object	Invention	Utility model	Industrial design	Trademark
Requirement	Novelty, Inventiveness and Practical applicability	Novelty	Novelty	1. Word, device or their combination 2. Distinctive as to be distinguishable 3. No identity or similarity to other marks
Application:				
1. Starting date	Filing date	Filing date		Filing date
2. Principle	First to file	First to file		First to file
3. Priority right application	Within 1 year	Within six months		within six months
4. Authority		SIPO		Trademark Office (TO)
Examination and approval		Preliminary examination	No	Preliminary examination
	Substantial Examination	No	No	Substantial Examination
	Certificate issuance, registration and announcement			Certificate, registration and announcement
Right holders' rights	1. Make, use & sell related products and use the method 2. Prevent others from importing identical products or products made from using the patented method 3. Assign the right upon approval from SIPO 4. License the right with record in SIPO. 5. Right of cessation 6. Right for legal protection Yes			
Annual Fee	20 years 10 years Yes			
Terms of Protection	20 years 10 years			
Renewal	No			
Infringement solution	Civil procedure, administrative procedure and legal procedure, including injunction, fine, damage compensation, administrative and judicial resolutions.			
				Indefinite renewal in every 10 years

Table 10: Continued.

	Know-how/Business secret	Artistic and Literary works	Computer Software
Major Law	Anti-unfair Competition	Copyrights	Computer regulations
First Promulgation	1993	1990	1991
Current version	1993	2001	1991
Subject(s)	Operators in trading & services	Authors and their inheritors	creators and/or transferee
Object	Know-how/business secret	Literary and artistic works	Programmes and documentation
Requirement	1. Technical & operational information 2. Unknown to the public 3. It can bring economic benefit to the owner 4. Practical applicability 5. Owners take measures to keep secret	Existence of the work	1. Independently developed 2. In material form
Application:			
1. Starting date	No	First publication date	First publication date
2. Principle	No	No.	No
3. Priority right application	No	No.	No
4. Authority	Control and inspection authorities under SAIC	State Copyrights Administration	Software Registration Administration Organisation
Examination and approval	No	No.	Registration Certificate
Right holders' rights	1. Licensing 2. Assignments 3. Prevention of imitation or copying	1. Publication 2. Authorship 3. Alteration 4. Integrity 5. Exploitation 6. Right to remuneration 7. License the right 8. Prevention of unauthorised copying	1. Publication 2. Authorship 3. Exploitation 4. Authorisation for use 5. Right to remuneration 6. License the right 7. Prevention of unauthorised copying
Annual Fee	No	No	No
Terms of Protection Renewal	Indefinite if secrets are kept	50 years after the author's death	25 years
Infringement solution	Civil procedure, administrative procedure and legal procedure, including injunction, fine, damage compensation, administrative and judicial resolutions.	No	another 25 years

Source: Summarised by the author based on IP laws in China.

designs if they are granted with patent rights.⁷ An invention or a utility model must possess novelty, inventiveness and practical applicability. Novelty means no disclosure to the public and no filing for application before the date of filing (*Patent Law* 1992: Article 22). Inventiveness refers to “prominent substantive features” and “notable progress” in invention and “substantive features and . . . progress” in utility model. Practical applicability connotes that “the invention or utility model can be made or used and can produce effective results” (*op cit*). A patent duration is 20 years for an invention, 10 years for a utility model and industrial design from the date of filing (*op cit*: Article 45). Patent applications by foreign applicants are treated in accord with international conventions or bilateral agreements between China and the applicants’ countries. Moreover, foreign applicants must appoint a patent agency⁸ designated by the State Council in China to deal with patent-related matters (*op cit*: Article 18–19).

By and large, China has established “an ultra-modern patent system” (Wegner 1996: 38). “Its parallel adoption of the PCT brings China’s patent laws to the front of all nations, and helps comprise a system incorporating most of the best features of the ‘Basic Proposal’ that emerged in Geneva” (*op cit*).

The current *Trademark Law* was based on the 1982 law, with its major amendment in 1993 and 2001. It also applies to service marks. There are four other supplementary regulations and provisions mostly promulgated after the amendment of the trademark law.⁹ Like the *Patent Law*, it also authorises a first-to-file registration system (Article 18). Foreign applicants can entrust

⁷ The US patent system also protects three different rights — utility patents (process, machine, article of manufacture, etc); design patents (design for an article of manufacture) and plant patents (new variety of plant). It still relies on a first-to-invent arrangement, rather than the more common first-to-file procedure (*Source*: E-mail from Mr. Mark Longland from Oxford Intellectual Property Research Centre and www.uspto.gov).

⁸ Patent agencies refer to “. . . the service organs that apply for patents or handle other patent-related affairs on behalf of their consignors and within their authorised powers” quoted from Article 3 of the *Regulations on Patent Commissioning* (March 1991).

⁹ Other regulations and provisions about trademarks include:

- (1) *Interim Provisions on the Claims for Priority in Applying for Registration of Trademarks* (March 15, 1985);
- (2) *Supplementary Provisions on the Punishment of Crimes of Counterfeiting Registered Trademarks* (February 22, 1993);
- (3) *Implementation Regulations of the Trademark Law* (July 15, 1993, amended in 2001);
- (4) *Procedures for the Registration and Administration of Collective Marks and Certification Marks* (December 31, 1994); and
- (5) *Provisional Regulations on the Verification and Control of Well-known Trademarks* (August 14, 1996).

a state-designated agency¹⁰ to apply for a trademark or service mark under bilateral agreements between their own countries and China or under international conventions or on the basis of the principle of reciprocity. The valid period for a trademark is ten years from the date of registration approval. Indefinite renewal is permitted with renewal at every ten years. Added to the above rules for ordinary trademarks and service marks, in 1994 and 1996, China also stipulated rules for special marks, such as collective marks, certification marks and well-known trademarks.¹¹

The current *Anti-unfair Competition Law* was announced in 1993.¹² It categorises 11 acts of unfair competition,¹³ including business secret infringement.¹⁴ Business secrets refer to technical and operational information with practical applicability unknown to the public, which can bring economic benefits to the owners, who take measures to keep them secret (Article 10). There are mainly three acts of infringement:

- (i) The act of obtaining business secrets by illegitimate means;
- (ii) The act of disclosing, using or allowing others to use the business secrets obtained by illegitimate means; and
- (iii) The act of disclosing, using or allowing others to use the business secrets obtained by breaking a contract engagement or disregarding the owners' requirements.

Apart from the above three acts of infringement, third parties who obtain, use or disclose business secrets when they realise or should know the above legal acts, should also be perceived as committing acts of infringement. Under this

¹⁰ Trademark agencies: the service organs approved by the SAIC to act as its agent to deal with trademark applications and approval from local and foreign individuals and enterprises (*Implementation Regulations*: Article 3).

¹¹ A collective mark refers to a mark co-owned by a collective organisation or company. A certification mark refers to a mark controlled by an organisation but used by others. Well-known trademark here refers to "... registered trademarks which are of high repute and well-known to the relevant sector of the public" (*The Provisional Regulations on the Verification and Control of Well-known Trademarks*: Article 2).

¹² *Anti-unfair Competition Law* stands for the *Law of the People's Republic of China for Countering Unfair Competition*. The other relevant law is the *Company Law of the People's Republic of China*.

¹³ Unfair competition here refers to where legal persons, other economic organisations and individuals in trading and services contravene the *Anti-unfair Competition Law*, thereby "... damaging the lawful rights and interests of other operators, and disturbing the socio-economic order" (Article 2).

¹⁴ See Chapter 2 of the *Law of the People's Republic of China for Countering Unfair Competition*.

law, an injured party may require civil and administrative procedure to obtain remedies, such as injunction, damage-based or profit-based compensation and a fine ranging from Ren Min Bi (RMB)¹⁵ 10,000 to 200,000 yuan (Article 20 and 25). The injured party may also institute a legal action to seek protection (Article 20).

The current *Copyright Law* was enacted in 1990 with its major amendment in 2001. It protects the authors' rights in literary, artistic and scientific works, and other related rights, including neighbouring rights, moral rights and special rights. Foreigners' works can be protected under international conventions or bilateral agreements to which China is a party (Article 2). The term of protection is an author's life-time plus 50 years after his or her death (Article 21). In addition, after 1990, a series of regulations and provisions related to copyrights were promulgated.¹⁶

Under the *Copyright Law*, computer software is protected with different regulations.¹⁷ Computer software here refers to computer programmes and related documentation.¹⁸ A piece of software developed by a foreigner that is made public first in China enjoys this regulation. If software is first made public outside China, it is protected under international conventions or bilateral agreements between the foreigner's country and China.¹⁹ Under the regulation, the protection duration for software is 25 years.²⁰ Extension can be made for another 25 years, but the maximum protection period is 50 years in total. Table

¹⁵ Ren Min Bi is the name of Chinese currency literally meaning the people's currency. The unit is yuan (CNY). On July 1st, 2002, the exchange rate was Euro 1 = CNY 8.18502, US\$ 1 = CNY 8.26700, and £ 1 = CNY 12.6545 (www.xe.com).

¹⁶ There are four other copyright-related laws and regulations. They are:

- (1) *Regulations for the Implementation of the Copyright Law* (June 1, 1991);
- (2) *Provisions on the Implementation of the International Copyright Treaties* (September 30, 1992);
- (3) *Resolution of the Standing Committee of the National People's Congress on Punishing the Crimes of Copyright Infringement* (July 5, 1994); and
- (4) *Regulations on the Administration of Audio-Visual Products* (August 25, 1994).

¹⁷ The laws in computer software are:

- (1) *Regulations on the Protection of Computer Software* (June 4, 1991);
- (2) *Revised Provisional Regulations Governing the Management of Chinese Computer Information Networks Connected to International Networks* (May 20, 1997);
- (3) *Computer Information Network and Internet Security, Protection and Management Regulations* (December 30, 1997).

¹⁸ See Article 2 of the *Regulations on the Protection of Computer Software* (1991).

¹⁹ See Article 6 of the *Regulations on the Protection of Computer Software* (1991).

²⁰ See Article 15 of the *Regulations on the Protection of Computer Software* (1991).

10 shows the comparison of the *Copyright Law* and the *Computer Software Regulation*.

Zhang (1999), Vice Minister of Justice concluded, “Since 1979, China has enacted 311 laws and decisions on legal issues as well as over 700 regulations and nearly 4,000 administrative rules”. Amongst this vast volume of laws and regulations, IPP comprises one of the major areas of activity. Apart from the aforementioned laws and regulations on the principal forms of IP, special regulations have also been announced to guide the protection of new technologies or special rights. They include traditional Chinese medicine, pharmaceuticals, agricultural chemical products, and the protection of new varieties of plants. In a word, China has established a comprehensive mechanism for IPP.

4.2. Administrative Control

In addition to legislative guidance, administrative control has also been established to administer the implementation of IPP in China (see Figure 10). Different IP forms are currently managed by three separate organisations under the State Council. The general responsibilities of these organisations are examination and approval of IP rights, interpretation of IP laws, supervision of IP activities and administrative settlement of IP disputes. Here in the following, a brief introduction will be given to different administrative organisations and their functions.

The State Intellectual Property Office (SIPO) deals with different patent affairs. It was established in 1980 directly under the supervision of the State Council. It is responsible for the preliminary examination and approval of patent applications, and interpretation of patent law and regulations. It is also responsible for international patent applications, interpretation and other international patent issues. The Patent Re-examination Board (PRB) within SIPO is responsible for the re-examination of rejected applications, which have requested re-examinations. In addition, there exist provincial organisations under the same names, whose role is to co-operate with the central SIPO and PRB, and supervise provincial patenting activities.

In addition to applications, re-examinations and legal interpretation, the supervision of patenting activities and settlement of administrative disputes are also important roles of SIPO and the PRB. The administrative organs have the authority to supervise patenting activities and to stop any patent infringement or passing-off. They can impose and order for correction in public, levy a fine and require that compensation be paid. The fine ranges from RMB 1,000 to

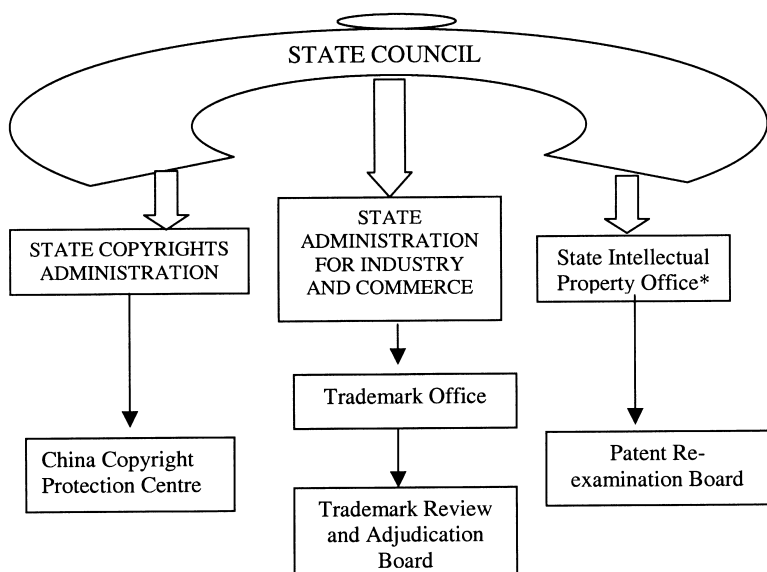


Figure 10: Administrative Control of intellectual property in China.

* State Intellectual Property Office was formerly the Patent Office. It was renamed in 1998 (www.sipo.gov.cn).

Source: Based on Bosworth & Yang (2000: 458).

50,000 yuan or a fine from 100% to 300% of the illegal income (*Patent Implementation Law*: Article 78). Moreover, disputes can be brought to the two organs for administrative settlement.

Trademark Office under the State Administration for Industry and Commerce (SAIC) of the State Council deal with mark issues. It is responsible for mark examination, preliminary approval, registration and administration throughout the country. It has the authority to cancel a trademark in question at any time. The Trademark Review and Adjudication Board (TRAB) within the Trademark Office is accountable for receiving and resolving applications for adjudication and administrative handling of trademark disputes. Like patents, trademarks also have provincial administrations with the major functions of supervision and co-operation.

Violations of the *Trademark Law* may cause censure, a fine, compensation and cancellation of registered trademarks. The fine should not exceed 50% of the illegal business or five times the profit gained from infringement (*Implementation Regulations of the Trademark Law*: Article 43). The

compensation should be either profit- or damage-based. Specifically, according to Article 43, *the Implementation Regulations of the Trademark Law*, the SAIC may take different measures to stop an infringing act, in particular, to:

- (1) “order to immediately stop the sale of the goods;
- (2) seize and destroy the representations of the trademark in question;
- (3) order to remove the infringing trademark from the remaining goods;
- (4) seize such molds, plates and any other tools of offence as directly and exclusively used in the trademark infringement; and
- (5) order and supervise to destroy the infringing articles if it cannot sufficiently stop the infringing act to take such measures as enumerated in the preceding four subparagraphs or if the infringing trademark and the goods involved therein could hardly be separated from each other”.

The SCA is the administrative organ under the State Council. Its principal task is the nation-wide administration of copyright, including law and regulation implementation and promulgation of administrative rules, infringement investigation, approval of foreign copyright agencies, etc. The China Copyright Protection Centre, which was established in 1998, is responsible for the computer copyright registration and administration (Bosworth & Yang 2000: 459). The administrative control has also been established at the provincial level to supervise copyright implementation within their jurisdiction.

The SCA may impose administrative sanctions when a copyright is infringed and to order compensation. The sanctions include warning, injunction of infringing copies, confiscation of illegal gains, seizure of unlawful copies and equipment and, a fine. The fine is between RMB 100 and 50,000 yuan, depending on the extent of the infringement (*Implementation Regulation of the Copyright Law*: Article 51). Added to the above sanctions, the SCA may also order the infringers to compensate the injured party for the loss.

Apart from the above-authorized organisations dealing with IPP issues, product related organisations also exert administrative control on relevant product protection. For instance, the State Drug Administration (SDA) under the State Council has the Office for Administrative Protection of Pharmaceuticals. China Custom has its own division for IP border control. The Ministry of Foreign Trade and Economic Co-operation (MOFTEC) has a department

dealing with trade-related IP issues. However, their major functions relate to administrative supervision and co-operation.

4.3. Judicial System and its Enforcement

The power of the judicial system was only restored in 1979 under the policy of reform. The Ministry of Justice, which was abolished in 1959, was first re-established to administer the judicial system and legal reform. Its functions are the supervision of personnel management of judicial staff, the organisation of training of legal workers, the allocation of funding to the courts and the exchange of legal research with foreign judicial bodies (Worden *et al.* 1987).

The judicial system can be viewed from three aspects — the court system, judges and lawyers, and dispute settlement. The court system reflects four-tiers of judicial control in China. The following discussion about Chinese judges and lawyers highlights the dramatic changes that have taken place in enforcement. It also indicates the increasing importance of judicial enforcement. The final part in this section describes the conventional mechanism of dispute resolution in China, which is very different from the US system.

4.3.1. Court System

The Chinese Court is a people's court system with four tiers (see Figure 11). The top level is the single Supreme People's Court, which is directly

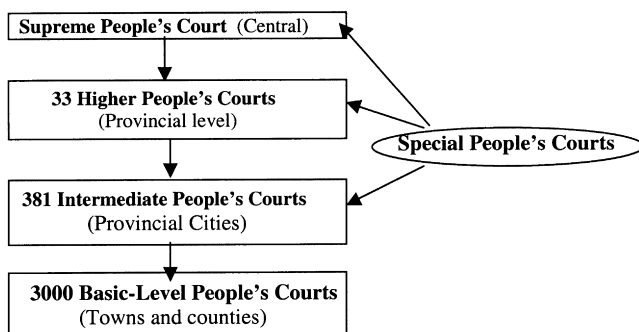


Figure 11: Court tiers.

Source: Based on O'Connor & Lowe (1996).

responsible to the NPC and its Standing Committee, it has powerful jurisdiction over the lower courts. Next to it, are the 33 Higher People's Courts at the provincial level.²¹ The third tier is the Intermediate People's Courts, established in provincially administered cities. At the time of writing, there were 381 courts at this level. The next tier is the Basic-Level People's Courts, with almost 3,000 courts at the town and county level (O'Connor & Lowe 1996: 80). In addition to the four levels of courts, tribunals provide legal services to people in remote areas. So far, there are more than 17,000 People's Tribunals nationwide, underneath the Basic-Level People's Courts (*op cit*: 81).

In addition, special People's courts or specialised IPP divisions dealing with IP disputes, have been established within and above the Intermediate People's Courts — since 1992, these have been called the IP adjudication divisions (State Council 1994: 13). These special courts have jurisdictional powers that enable them to handle IPP issues more efficiently. When there is no special People's court or IPP division, cases are handled in the economic division within the courts. IP litigation should be first brought to the Intermediate People's Courts in provincial cities where the alleged infringers reside or where the infringement has occurred.

Different tiers of courts usually hear and decide cases at three levels, depending on the seriousness and complexity of the cases. The first level involves a single judge hearing minor civil or criminal cases. The second level is a panel hearing more complex cases. The panel is composed of judges and perhaps jurors — they are called “people's assessors”, as they are chosen from the populace. The third level is a hearing by an adjudication committee. An adjudication committee is the highest decision-making body in the court. It can decide individual cases and direct verdicts (O'Connor & Lowe 1996: 81).

Any individual or organisation can bring a lawsuit to a people's court, such as an Intermediate People's Court. If they do not agree on the judicial verdict of that court, the case can be pursued to a higher court, such as a Higher People's Court. The verdict from a court at the second proceeding is final, i.e. no further legal proceedings are allowed. For instance, a company in Beijing can sue an infringer by going to the Beijing Higher People's Court. Then, it can have one further proceeding by filing its case with the Supreme People's Court, if the result from the higher court is not satisfactory to the company and they believe the case to be worth pursuing.

²¹ Provincial level also includes autonomous regions and municipalities.

4.3.2. *Chinese Judges and Lawyers*

Judges and lawyers in China have gradually gained their significant role, status and power since 1979, after the judicial system was restored. They are named as “legal workers of the state” by the government. Judges are elected or appointed by the people’s congresses at national and local levels. They usually serve a maximum of two terms of 10 years (Worden *et al.* 1987). Usually one to three judges and three to five assessors administer most trials. Assessors are either elected by local residents or people’s congresses, or appointed by the court for their expertise. In trials, judges and assessors both play an active role in questioning all witnesses. In contrast, in Western trials, a judge administers the trials impartially between two contending attorneys.²²

There are four alternative routes to qualification as a Chinese lawyer.²³ Individuals must be:

- (a) law graduates with minimum two-year experience in people’s courts, people’s procurate or public security departments;
- (b) judges in the people’s courts and procurators with legal training;
- (c) university graduates with a minimum of three years experience in economics, science or technology and well acquainted with the laws in a particular area;
- (d) with education, experience and legal knowledge similar to the above three categories.

The *Provisional Regulations of the PRC on Lawyers* in August 1980 has brought a tremendous change for Chinese lawyers. In less than one year (1982–1983), the number of legal advisory offices increased from 1,300 to 2,300. The number of lawyers increased from 4,800 to 12,000 in the same time period, which included 3,500 part-time lawyers (Worden *et al.* 1987). The growing demand has also increased the need for law education institutions. The law universities, closed during the Cultural Revolution, were re-opened and new ones were established. By mid-1985, there were approximately 3,000 law graduates annually from five legal institutes and 31 university law faculties across the country (*op cit*). In 1986, there were 40,000 lawyers in China, but in

²² According to Professor Vaver, in “IP civil cases, in the US, there may be a jury trial and jury verdict on both liability and damages, but the trial court can reverse on liability if the verdict is wrong in law and on damages if they surpass reasonableness. Parties can waive trial by jury or have a trial by a judge alone. In the UK, IP trials are by a judge alone — no jury has been used for a century”. (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001).

²³ See details from the *Provisional Regulations of the PRC on Lawyers* (1980).

1994, the number increased to 70,000 (O'Connor & Lowe 1996: 94). It was reported that, by 2000, the Chinese government had a target to have 150,000 lawyers (*op cit*). Moreover, in order to increase the quality of legal services and have more qualified lawyers, people are encouraged to take bar exams and enter legal practice.

Regarding IPP, there were more than 5,000 patent agents and 7,000 trademark workers actively involved in patent and trademark applications, infringement litigation, consultancy, etc. (*op cit* 1996: 95). IP training has been very extensive. For instance, after the patent law was revised at the first time, more than one million people received formal training (State Council 1994: 6). Since China joined WIPO, it has had more than 30 jointly organised training and workshop sessions with WIPO, with over 3000 participants for each training course (*op cit*). Over 70 universities provide education and research on IP (*op cit*). Therefore, in the near future, more people with IP training and education will be actively involved in IP administration and judicial enforcement.

4.3.3. Conventional Dispute Settlement

Foreign enterprises operating within Chinese territory should abide by the Chinese laws for contract dispute settlement (*Economic Contract Law* 1993). Any issues absent from Chinese law should be settled by following international practice. There are four main ways to settle disputes amongst contract parties: consultation, mediation, arbitration and litigation.

Consultation Disputing parties try to resolve their problems through negotiations between themselves. Opposing parties reserve their differences and seek common ground through internal consultation during meetings of the Board of Directors. Resolutions should be sought internally by co-operation and compromise between the parties. This method encourages co-operative working between the parties.

Mediation Disputing parties can try to resolve their problems through co-ordination by a third party. The difference from "consultation" is that mediation involves the resolution of a problem by a third party, such as a government organisation, administrative institution or association, dispute mediation institution or arbitration organ. Mediation is a very traditional practice in China because of its flexibility and simplicity. Beijing Mediation Centre is the only mediation organ involving foreign-related matters. The parties involved must

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apply for mediation at this centre when an agreement to mediate is reached amongst the parties.

There are two different forms of mediation depending on their ways of resolving disputes — private mediation and the people's mediation (O'Connor & Lowe 1996: 87–88). Private mediation is the mediation with informal involvement by a third party. The people's mediation can be mass organisation mediation, administrative mediation and judicial mediation. Judicial mediation is the last resort amongst the various alternative forms of mediation. Dispute resolution cannot be addressed without involving the People's Mediation Committees, which is the sole organisation for mediating civil disputes, family disputes and minor criminal disputes. Administrative mediation refers to the mediation conducted by governmental organisations rather than courts and the People's Mediation Committees. It includes dispute mediation between employees, between individuals and an organisation or between organisations, agencies and enterprises. The administrative organs for IP administrative mediation are SIPO, Trademark Office and SCA (Bosworth & Yang 2000: 459).

Consultation and mediation are the two preferred means of resolving disputes. This not only results from the traditional cultural effects of harmony (see details in the background section), but also is attributed to the significance of the two methods — consultation and mediation. They help in developing democracy and enhancing the legal system, assist in repairing the impaired relationships between the parties — leading to dispute resolution with compromise, rather than an adversarial solution (O'Connor & Lowe 2000: 85–86). Moreover, these two solutions are less complex to implement than legal proceedings, and assist administrative functioning in the People's Court (*op cit*).

Arbitration Arbitration occurs when the parties in dispute agree to submit the dispute(s) to a non-governmental arbitration institution for settlement. It is a quasi-judicial procedure with rigour and criteria. Furthermore, it is more flexible than litigation in terms of time and money. The parties to the dispute must abide by the arbitration adjudication, otherwise legal enforcement will be carried out by the relevant courts (*op cit*). For example, the China International Economic and Trade Arbitration Commission (CIETAC) has become a reputable arbitration institution for dealing with disputes. Since 1978, the economic boom has seen a dramatic increase of disputes and, by the early 1990s, CIETAC was averaging 100 cases *per annum* (Potter 1995: 75). The number of cases the CIETAC received increased from 37 in 1985 to 892 in 1995 (Chan 1997: 542). Most cases associated with foreigners are disputes

between foreign and Chinese companies, accounting for 90% of the total (*op cit*: 540).

Litigation Litigation is a dispute in which one party brings a lawsuit against the other party or parties for settlement before the People's Courts. By judicial procedures, a court will adjudicate a resolution for the dispute. The litigation proceeding is usually so long and adversarial in nature that it tends to lead to a lack of future co-operation and to be detrimental to the parties involved. Thus, most disputes are resolved through the ways mentioned above. Litigation is usually the last resort, although one party may go to the court straight away in order to resolve a dispute.

Summary and Conclusions

This chapter describes the current IP system in China, i.e. the triple legislative guidance, administrative control and judicial enforcement. The rapid introduction of IP laws, organisation of administration, and judicial control demonstrate positive attitudes and actions by the Chinese government, and signal China's intention to attract FDI and ITT to aid her economic development.

Chapter 5

Intellectual Property Activities in China

Introduction

The establishment of a systematic IP system in China proves that the Chinese government has the determination to keep in line with the international IP standard. The effect of the system can be clearly seen from IP activities in China, which forms the focus of this chapter.

IP flows or activities here refer to the applications and approval of IP rights by the Chinese government to foreigners and local Chinese, including patents for inventions, utility models and industrial designs and trademarks. The data analysis in the following sections not only shows the changes in IP flows, but also, more importantly, demonstrates the positive effects that the IP system has had in just a little over a decade. The data was compiled based on the WIPO annual statistical publications (www.wipo.org), the statistics from SIPO in China, and data collection from Bosworth & Yang (2000).

5.1. Activities by Residents and Non-residents

Figures 12 and 13 show the patenting activities in China from 1985 to 2000. Figure 12 demonstrates the changes of patent applications. In the early stages of the establishment of the patent system, the applications from residents and non-residents are roughly equal, with residents' growing more quickly. However, from 1992 onwards, there are two major changes. Firstly, there was an upsurge of the patent applications from both residents and non-residents, which coincides with the major amendment of the *Patent Law*. Secondly, the applications from non-residents increased more significantly. The tremendous rise in the overall level of patenting activities from 1990 is in stark contrast to the experience of the 1980s.

Figure 13 shows the corresponding trends in patent grants by SIPO. One difference with the results in Figure 12 is that the numbers granted to

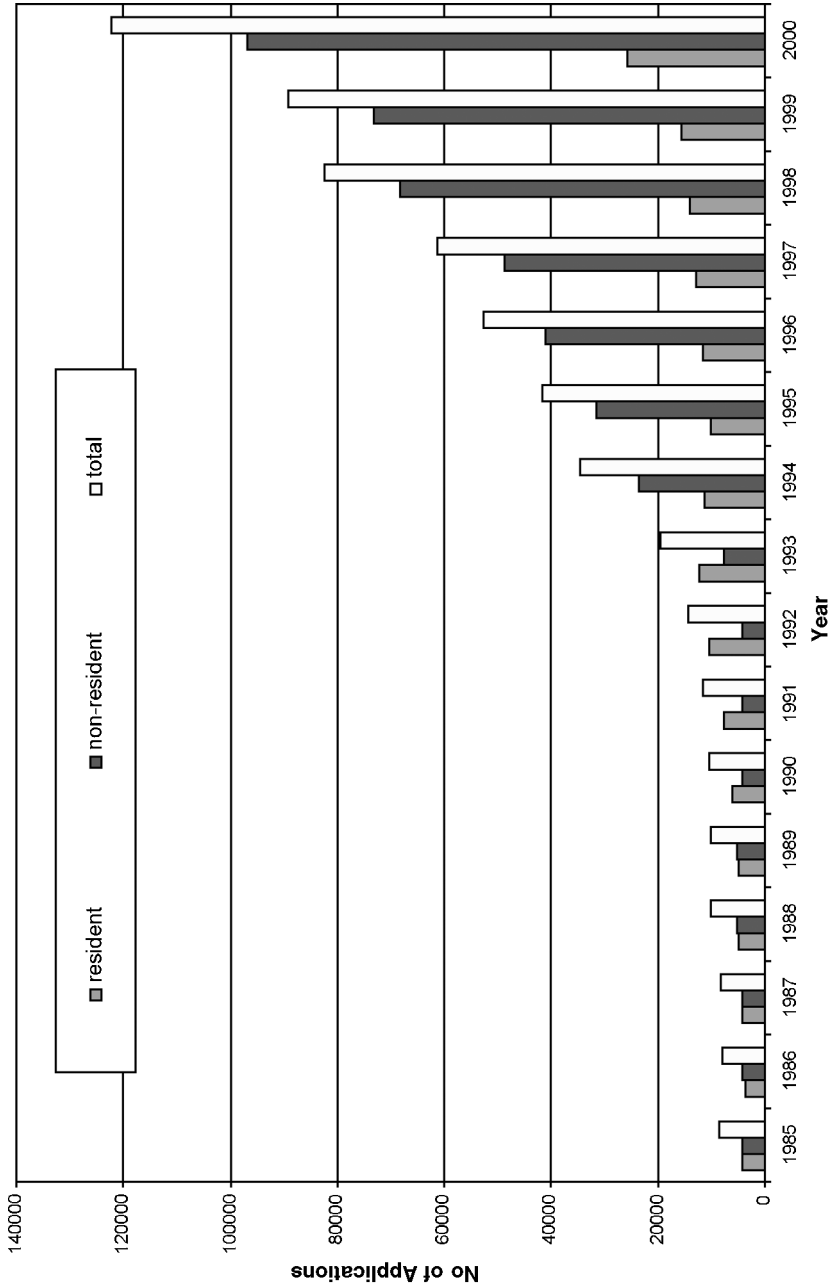


Figure 12: Patent applications in China broken down by residents and non-residents.

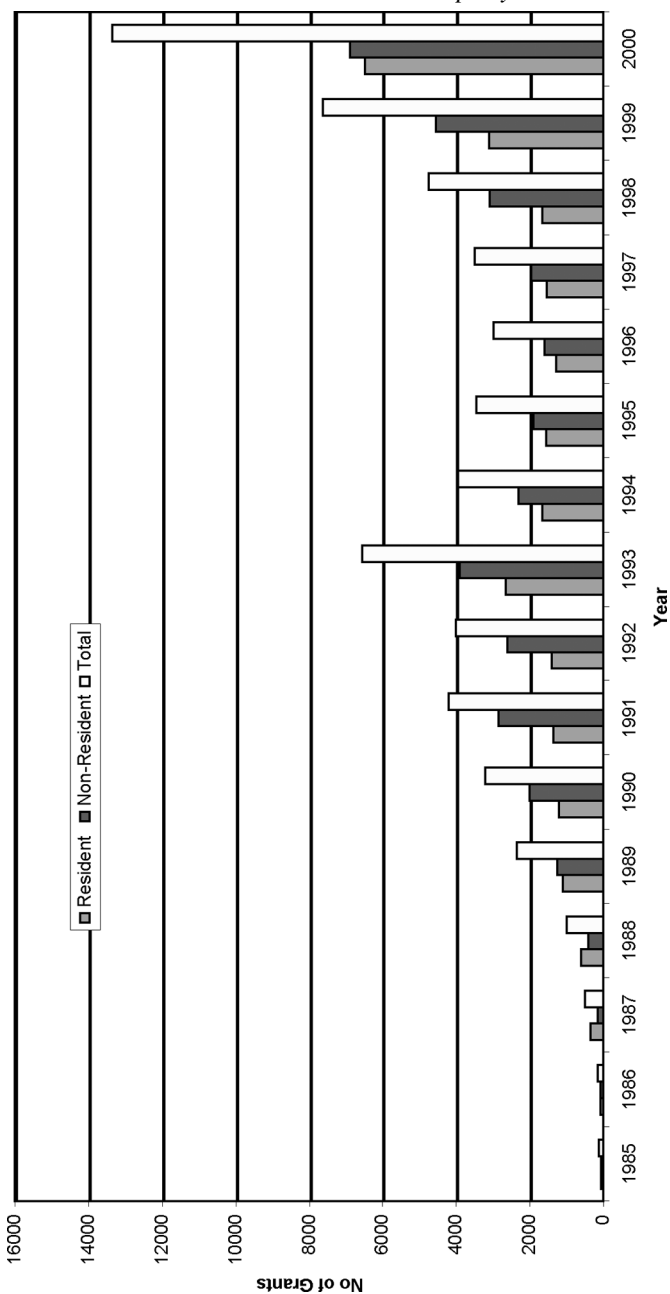


Figure 13: Patent grants in China broken down by residents and non-residents.

non-residents exceeds the ones to residents for most of the period, but the gap between resident and non-resident activity is not as large in the case of grants in the 1990s. From 1985 to 1994, the foreign applications accounted for 50% of the applications and 61% of the grants in China. This implies the higher quality of the non-residents' patenting flows into China (Bosworth & Yang 2000: 465).

Figure 14 shows utility model activities. Unlike patents, foreigners play a very insignificant role in the applications and grants in the case of utility models. The ratio for applications of utility models between foreign and local applicants is 1:141. This is the reason why we neglect a figure broken down by residents and non-residents, instead we present a figure with both applications and deposits in total. Utility model activity in China increased from 10,000 at the beginning of the period to 47,000 in 1993. This indicates the boom that has occurred in lower level of inventive activities in China (Bosworth & Yang 2000: 468).

Figure 15 shows applications and grants for industrial designs. The figures clearly indicate that residents largely dominate both applications and grants. The results occur for much the same reason as in the case of utility models. However, foreign applications have increased from 1992 onwards. Parallel to it, foreign registration also shows a small increase. One similarity to the patent experience is that the ratio of registrations to applications for foreigners is higher than for local Chinese. On the whole, foreign applicants only accounted for 12% of the total, and form 18% of total registrations.

Trademark activities can be seen from Figures 16 and 17. Compared to patents, trademarks show a much higher activity level. This can be explained by the applications to register the existing trademarks from local Chinese when the IP system was made effective. Applications for trademarks were broadly constant at the beginning of the period until 1990, with annual applications of up to 50,000. However, a significant increase occurs from 1992. This again coincides with the amendment of the *Trademark Law* and activities to join international organisations. The other noteworthy feature of these trademark applications is that foreign applications have been a very small proportion of the total, although there has been a large increase from 1992. However, this increase is very insignificant compared to that of local applicants. The higher relative level of domestic activity is also consistent with the lower level of creativity associated with trademarks compared to patents. In the case of trademarks, there is little difference in the ratio of registrations to applications between residents and non-residents. By 1995, there were 550,000 registered trademarks in China, of which foreign trademarks accounted for only 14.2% (Bosworth & Yang 2000: 466).

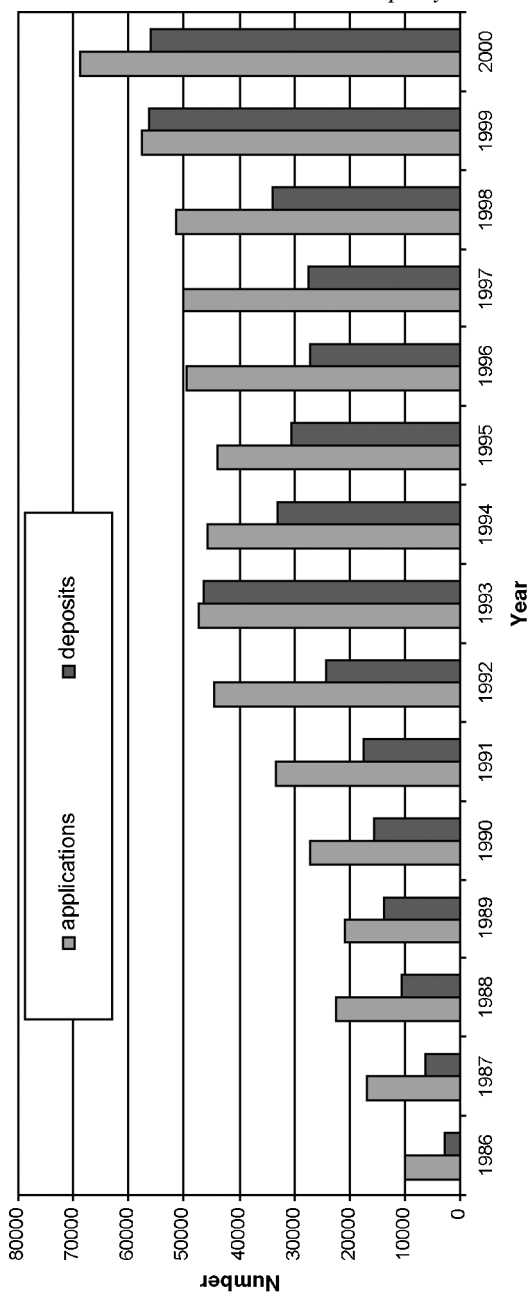


Figure 14: Utility model applications and grants in China broken down by residents and non-residents.

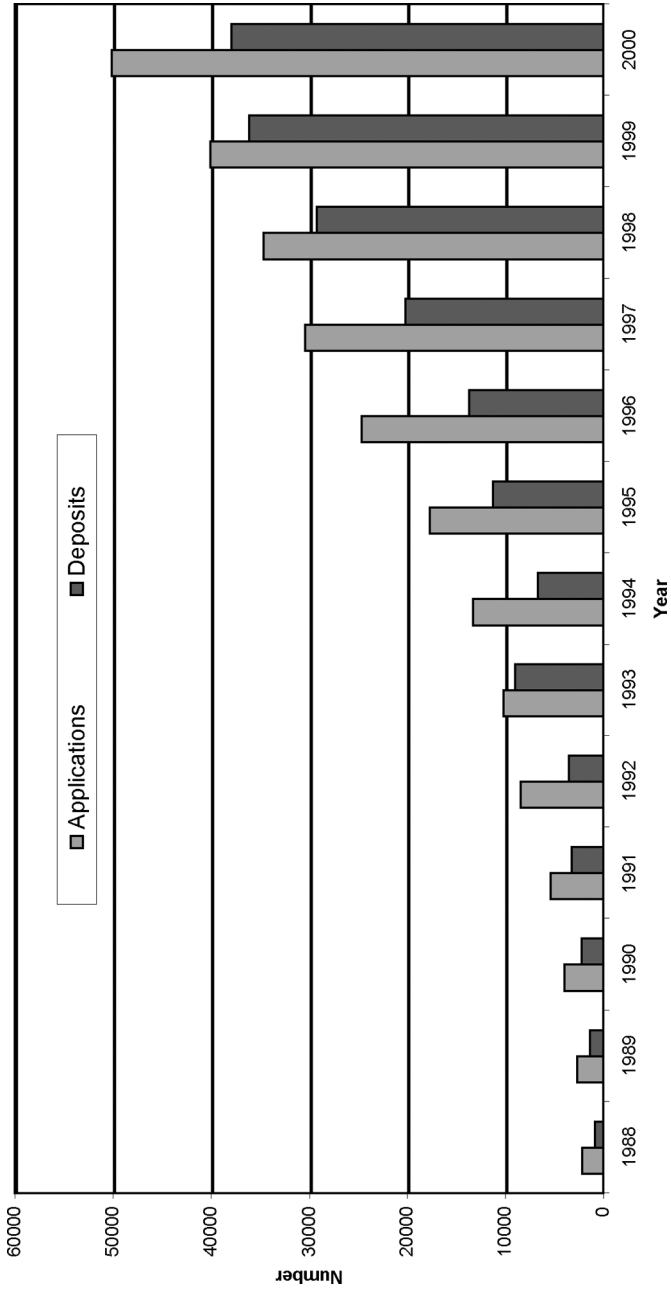


Figure 15: Industrial design applications and deposits in China.

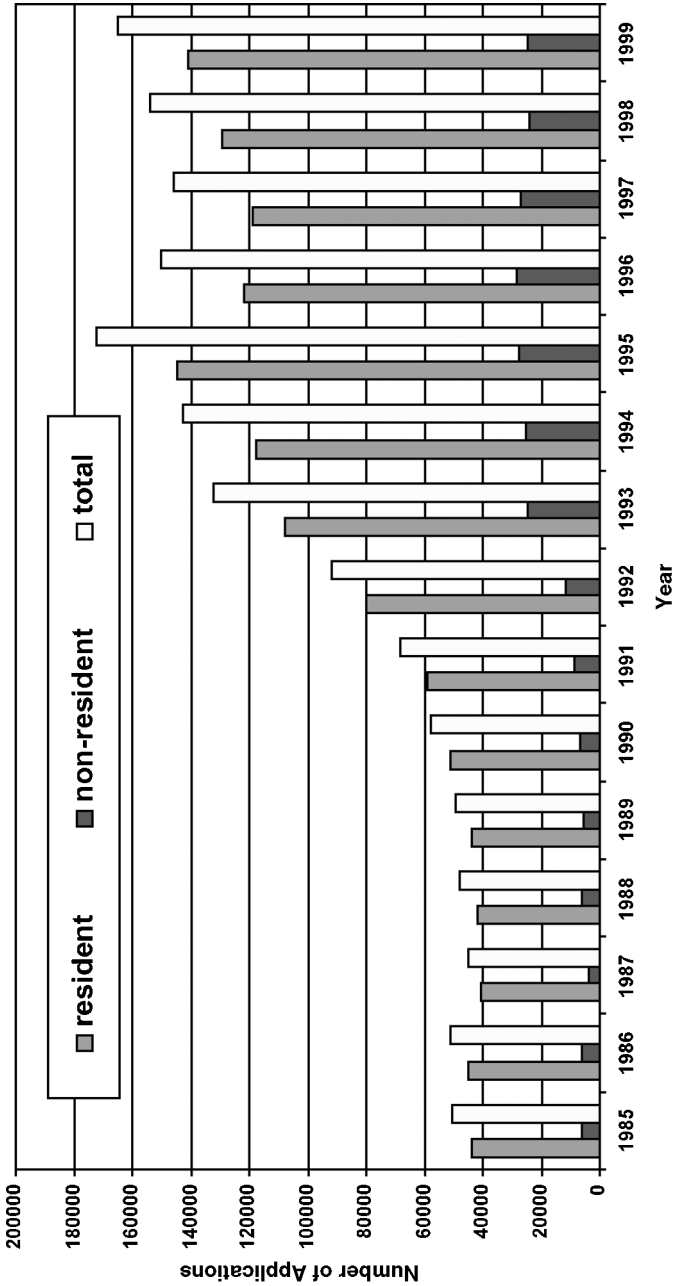


Figure 16: Trademark applications in China (1985–1999).

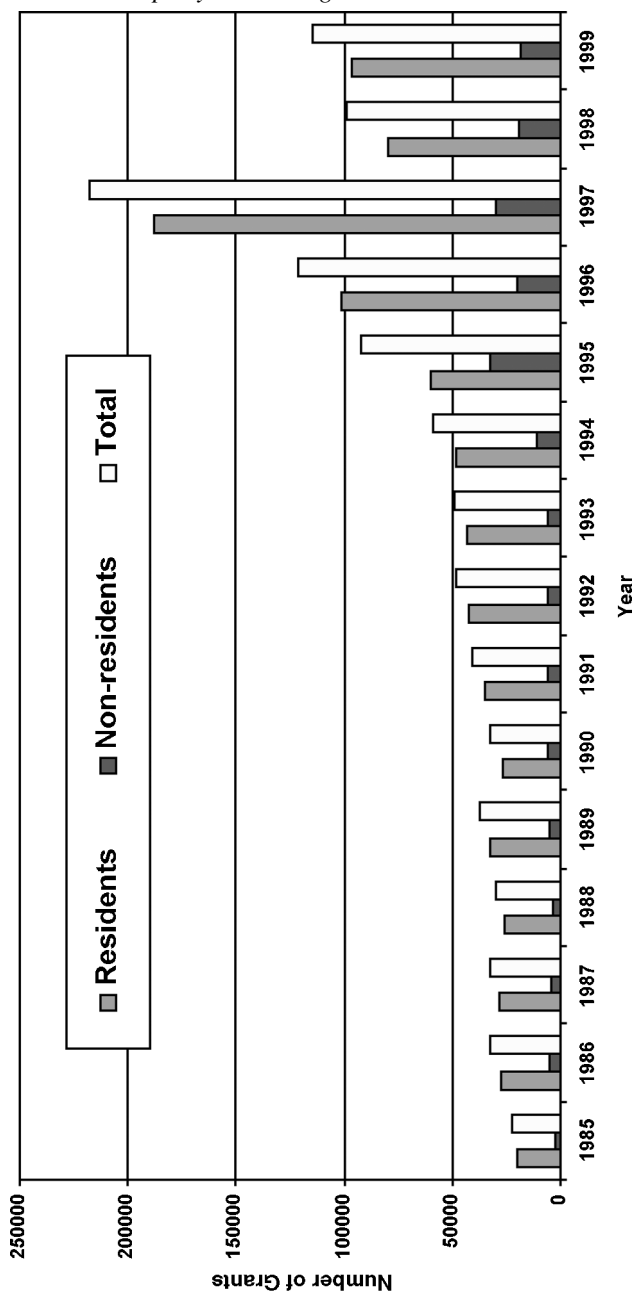


Figure 17: Trademark registrations in China (1985–1999).

Finally, Figure 18 shows the IP in force in 1995. There has been a strong growth in the patent stock, reaching 20,000 in force. Industrial designs show a similar trend, but at a little lower level. Utility models grow faster than designs and patents with about 70,000 in force. Finally, there were 550,000 trademarks in force by 1995, of which, foreign trademarks accounted for 14% of the total with 67,000 in force (*op cit*).

5.2. IP Activities Broken Down by Country of Origin

In this section, we put aside Chinese residents' IP activities and concentrate on the foreign IP, broken down by country of origin from 1985 to 1995. Figure 19 shows the distribution of patent flows. As we have noted, patents represent a more technologically advanced kind of progress, involving a significant inventive step. Thus, it is not surprising to see the majority of the patent rights being grants to Japan and the US because they are the predominant players in advanced technology. The main EU economic players follow behind with a total percentage broadly in line with both Japan and the US. Patent holders from other countries only accounted for slightly over 13%. The high concentration of the patenting activities indicates that the "triad" powers — the US, EU and Japan are the major players in advanced technologies.

Figure 20 shows the distribution of foreign trademarks in China, broken down by country of origin. The distribution is more segmented than patents but more focused than industrial designs. Again, the main players are the "triad" powers. The major developed countries' dominating position is closely linked to the establishment of the IP system. When trademark owners register a trademark in a foreign country, it enables them to launch their product(s) in a new market. Without appropriate protection, they would not produce their products in or export them to a foreign country. Thus, the distribution of trademarks is similar to that of patents.

Design activities showed a more diffused spread compared to the distribution of patents (see Figure 21). Japan and the US are still the top two, but coverage of design activities by them is only 16% and 10% of the total respectively. It is expected that Japan's position would predominate, as it has much greater use of design protection domestically. This has affected its activities in foreign countries, including its big market — China. The other major players, mostly from the EU again, accounted for less than 3% individually. The designs held by others took up almost 60% of the total foreign design activity. Additionally, Korea, as one of the newly industrialised countries (NICs), also joined the

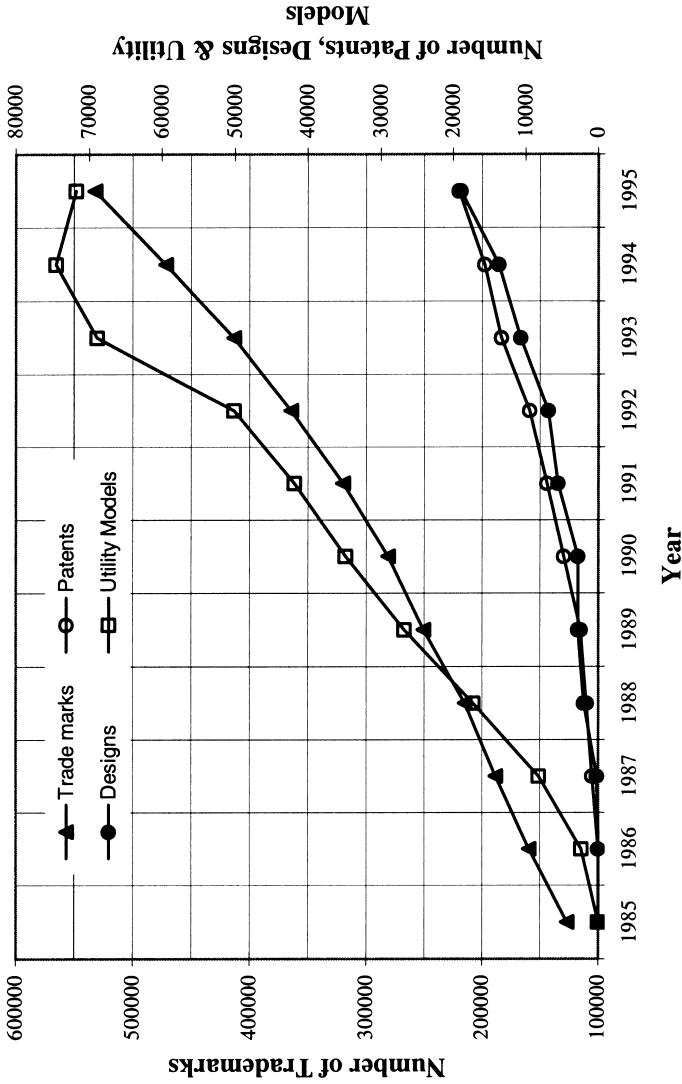


Figure 18: Intellectual property in force in China (1985–1995).

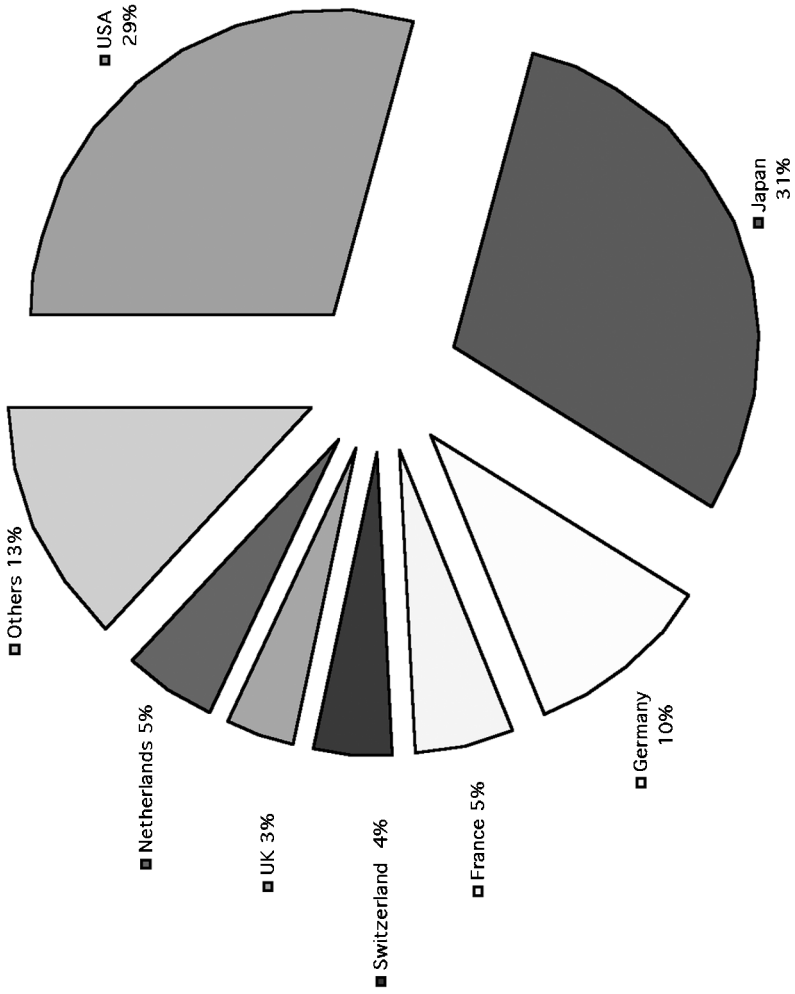


Figure 19: Patent flows from foreign countries into China.

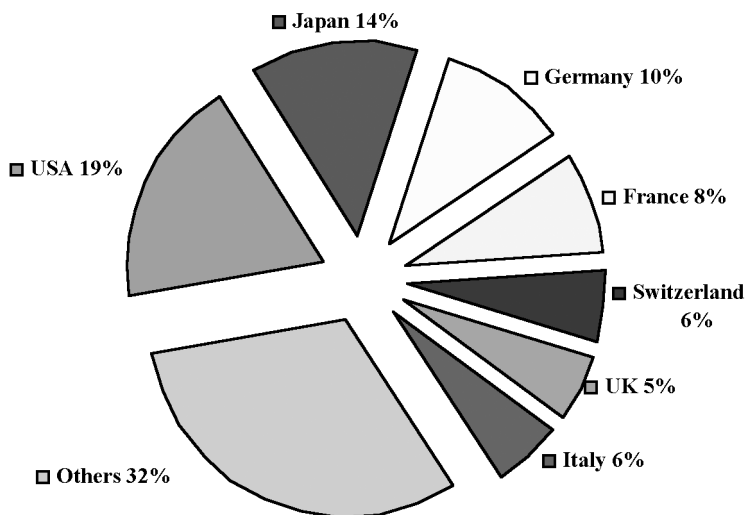


Figure 20: Trademark flows by country of origin.

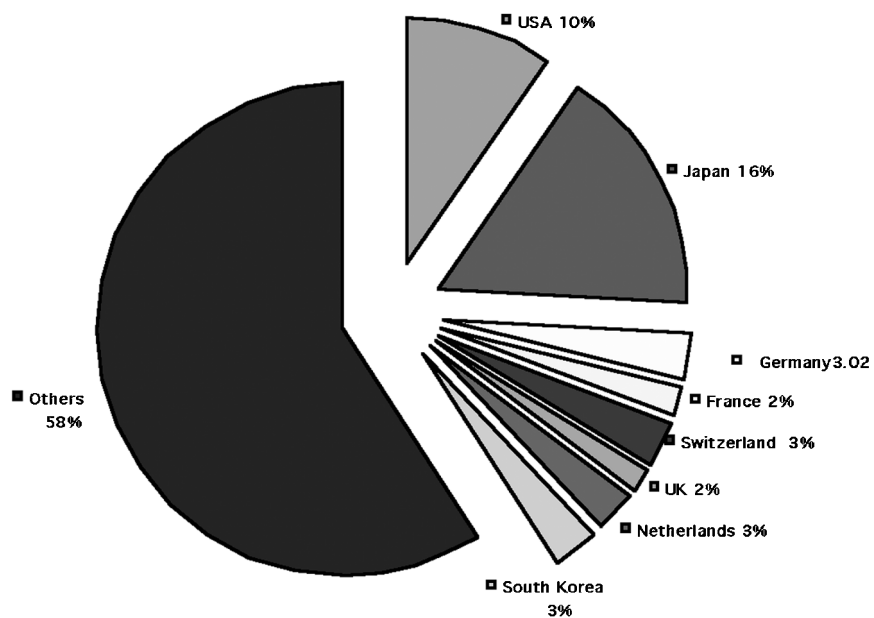


Figure 21: Industrial design flows by countries ((1985–1995).

major players with 3% of the non-resident designs. This indicates that the NICs are gaining importance in technological development in developing countries.

Figure 22 pools the above-mentioned IP data to give a comparative picture of the IP flows by country of origin. Foreign patenting activity in China is less evenly spread across countries than the other two forms of IP, with flows mainly associated with the triad powers. In the case of industrial designs, although the “triad” powers are still the top three, overall the sources of the inflows into China are more fragmented across countries. Trademark flows are in between these two, with the flows from major EU countries dominating the distribution. The major EU countries here refer to Germany, the UK, France and Switzerland.

On the whole, the IP flows from foreign countries into China have been dominated by the most advanced developed countries — the US, Japan and major EU countries. Although the spread of different IP flows is distinctive with patenting concentrated and industrial designs fragmented, the overall trends suggest that the major developed countries have been influential in pushing forward the technological development of China.

5.3. Significant Aspects of the IP Data

5.3.1. Intellectual Property is Nation-based

As we noted from the previous discussion, there are differences across countries in their national IP laws, as well as differences in their administration, enforcement, etc, despite the general trend towards harmonisation and co-ordination driven by international organisations. As a consequence, the extent of IP flows to recipient countries like China, though mainly influenced by the state of Chinese laws, is also affected by the laws of the supplying countries. This can be explained by two examples. First, if there is a conflict of law between the recipient and supplying countries, flows can be severely impeded, as has been the case between the USA and China — because of worries over IPP, the US placed China as the number one country in the PWL. This inevitably hindered technology flows into China. The second example comes from the difference in IP systems. China protects utility models under her patent law; The UK on the other hand, has no utility model protection system. Therefore, there have been very few if any applications for utility model protection in China from UK companies.

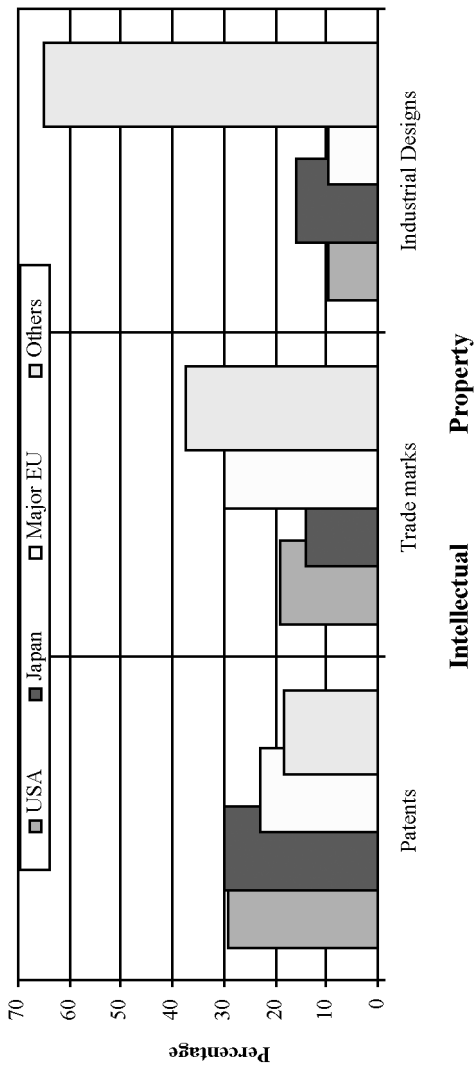


Figure 22: IP flows by country of origin (1985–1995).

5.3.2. Different Extent of IP Utilisation

The extent of IP activity (i.e. the extent to which inventors and other creators use the IP system) has also affected the flows from foreign countries to China. For example, France has a much more extensive usage of trademarks than most countries, while Germany places more emphasis on inventions and makes more use of the patent system (Bosworth & Yang 2000: 464). Similar differences occur because of the different scope of the patent claims in different countries. Japan tends to split its inventions into component parts for patent protection, resulting in a larger number of narrower patents, while the USA tends to take an opposite strategy, resulting in a smaller number of patents that are broader in scope (*op cit*). Thus, the extent and pattern of IP utilisation across countries, to some extent, affect the pattern of their IP flows to China.

Summary and Conclusions

This chapter has briefly introduced the IP activities in China under the new IP system. The analyses have first been broken down by Chinese residents and foreigners. Then, they were analysed by major source countries. The dramatic change in the volume of IP activities has provided evidence of the important role played by IPP in China. Major developed countries have been the most important players in IP flows into China.

Chapter 6

Firms and Technology in China

Introduction

The purpose of this chapter is to survey different types of firms and the technological situation in China, which form a good understanding of Chinese firm structures. In particular, it:

- portrays the complex types of companies existing in China, which are mostly the recipients of IP flows;
- examines the rationale for inter-corporate IP flows into China;
- illustrates the current technologically competitive market in China.

6.1. Industry and Company Diversity

6.1.1. Sectors in China

China remains an agriculture-dominated country. Over 69% of the population still live in rural areas, engaging in farming and other agriculture-related activities (*China Statistical Yearbook 2000*). Agricultural outputs grew at 6.5% from 1978 (National Bureau of Statistics of the PRC 1996). However, the ability of rural areas to assimilate the available agricultural technologies is limited. Consequently, agriculture remains labour-intensive, and production rates are not enhanced quickly enough due to the lack of sufficient support of agricultural machines and equipment.

However, the new economic climate has created a number of opportunities for farmers to increase their income and wealth. For instance, “rural economic unions”, such as small factories, construction teams, and some non-agricultural activities, have established a closer urban-rural interchange in labour, and techniques. This has significantly improved the rural economy and gradually narrowed the large gap between rural and urban areas that existed in earlier years.

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In comparison to agriculture, the industrial sector of the economy has developed more rapidly since the beginning of the economic reforms in 1979. Industrial developments have been very diverse in terms of size and technological sophistication. Large and technologically advanced industries are highly concentrated in the Northeast, and coastal areas in China under the state ownership. Small and medium sized enterprises are scattered all over the country under urban or rural collective and private ownership.

Within the industry sector, the manufacturing industry has been very diverse in product range, but the development has been unbalanced. For example, defense and satellite industries were at the forefront of the industrial development. Some heavy industries were also well established and developed, such as the steel industry. This is because the policy during Mao's times encouraged the development of these industries, and even in-house R&D was conducted in large state-owned enterprises. Therefore, when international technology transfer became an encouraging policy in China, these industries were able to diffuse foreign technology quickly. On the other hand, civil industries did not have such strong technological foundations compared to defense and some heavy industries.

Apart from the agricultural and industrial sectors, other sectors, such as construction, mining, energy, service etc, also exhibit varying degrees of development. A comparative study of the different nature and extent of ITT across industries, pre- and post-1978, is reported in Table 11. The table demonstrates not only the changes in ITT perspectives, but also the tendency for relatively balanced industrial development in China.

6.1.2. Companies in China

Chinese companies can be divided into two different groups: Chinese domestic enterprises (CDEs) and foreign-invested enterprises (FIEs) depending on the extent of foreign involvement. CDEs here refer to the companies with complete Chinese ownership, operation and management. There are three major Chinese domestic companies — state-owned enterprises (SOEs), collectively owned enterprises (COEs) and privately owned enterprises (POEs).

6.1.2.1. State-owned enterprises SOEs are literally enterprises with ownership by the whole people. They account for the largest proportion of all the enterprises in China. Under this ownership type, the assets of the enterprise belong to the state, activities fall under the plan of the national economy, and profits and losses are included in the state budget. Most large or highly technological enterprises are directly controlled by the central government.

Table 11: Industries in China and technology transfer in pre- and post-1978.

Comparative Items	Pre-1978	Post-1978
Magnitude of ITT	Very limited, only 400 projects at US\$2,700 million for the period	Large scale, 734 projects at US\$4,455 million in 1983 alone
Major transferors	Unitary: Soviet Union and Eastern Block, then EEC and Japan	All over the world
Major recipients	Chinese government	Chinese enterprises
Payment form	Inter-government credit and international commercial credit	FDI: 58%; foreign loans: 40%; Other: 2%
Transfer pattern	Limited: turnkey plants, subcontracting, and counter-trade	Diversified: the pre-1978 pattern plus licensing, franchising, co-production, JVs and WFOEs
Industrial emphasis	Priority on defence, heavy and satellite industries	Relatively balanced with civilian industries developing very quickly, such as consumer goods, food, electronics, and building materials
R&D outsourcing	Sluggish	Active
Indigenous R&D	Restrained	Encouraged
Institution-enterprise collaboration	Almost zero	Active
Political environment	Negative: discouraging the importance of knowledge and education; no legal environment	Positive: encouraging education and knowledge accumulation; priority for IPP

Source: Summarised and analysed by the author based on the data from MOFTEC (1983–1997).

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While most SOEs are supervised by lower-tiers of government (such as ministries and provincial governments), the central government shares their profits. Small- and medium-sized SOEs are under the control of city governments, prefectures, etc. Therefore, although SOEs are under the ownership of the state in an abstract sense, they are virtually operated and effectively controlled by various, generally lower-levels of government administration. Moreover, they are more indulged by the state governments with 70% of the state loans coming from that source (Dorn 1999). Some of the key statistics relating to the three main company forms for the year 1997 are shown in Table 12.

In the past two decades, the overall position of SOEs has changed. Although they still dominate the most sophisticated industries and sectors, such as insurance, and telecommunication, most of the SOEs tend to be loss making.

Table 12: Some comparisons of Chinese enterprises in 1999.

Indicators	SOEs	COEs	POEs	Total
No. of Enterprises (unit: 10,000)	6.13	165.92	612.68	792.99
Percentage	1	22	76	100
Gross Industrial Output Value (100 mil. yuan)	35571	44607	22928	126111
Percentage	26	38	18	100
No. of Staff and Workers in Industry (10,000)	2412	673	1343	4428
Percentage	65	21	14	100
Total Investment (100 mil. yuan)	13091.7	3850.9	3429.4	24941
Percentage	53	15	14	100

Source: Compiled and calculated by the author based on *China Statistics Yearbook* (2000).

In 1996, over 50% of the SOEs incurred net losses, accounting for 1.3% of gross domestic product (GDP), while the profits from other SOEs were less than 1% (Joseph 1997). Attempts to reform them have not been successful: capacity utilisation of SOE factories has been less than 60%; SOEs absorb over 75% of domestic credit and account for over 60% of the non-financial public sector deficit (*op cit*). The World Bank recommends that SOEs in China be “privatised”, although the actual word “privatisation” has been avoided (*op cit*).

6.1.2.2. Collectively owned enterprises COEs are the second largest company group in China. They are collectively owned by workers or members of the enterprises, and largely engage in small-scale labour-intensive manufacturing, such as building materials, agricultural machinery, textiles, furniture, handcraft, etc. Government has loose control over such enterprises. They are responsible for their own profits and/or losses. Based on their location, they are divided into urban and rural COEs. A number of key statistics relating to COEs can be seen from Table 12. It is worth noting that rural COEs have developed rapidly since the 1980s, bringing commerce and employment to rural areas.

6.1.2.3. Privately owned enterprises The term POEs refers to small and privately owned companies in China.¹ The POEs developed under the Deng’s policy, which allowed multiple types of ownership to develop and some people to become wealthy. However, the policy was to both encourage and limit the development. The purpose of encouraging POEs was to have diverse development of different companies, in order to enhance competition. The reason for limiting their development was to ensure that they did not overtake the dominant enterprises in China. This can be seen very clearly from the *Constitution of China* (1993).

“Article 11

The individual economy of urban and rural working people, operating within the limits prescribed by law, is a complement to the socialist public economy. The state protects the lawful rights and interests of the individual economy.

The state guides, assists and supervises the individual economy by administrative control. **The state permits the private sector of the economy to exist and develop within the**

¹ *China Statistics Yearbook* calls POEs individually owned enterprises.

limits prescribed by law. The private sector of the economy is a complement to the socialist public economy. The state protects the lawful rights and interests of the private sector of the economy, and exercises guidance, supervision and control over the private sector of the economy” [Bold is added here for emphasis].

However, it seems that the Chinese government is further liberalising POEs by amending the stipulations in the constitution, in order to admit that POEs are an, “. . . important part of the socialist, market economy” — instead of, “. . . a complement to the socialist public economy” (Dorn 1999). With China’s accession to the WTO, POEs will have unlimited potential to compete on equal terms with other enterprises in China and, thereby, to grow unhindered. This liberalisation also implies that there will inevitably be some businesses operating unlawfully, alongside the lawful businesses. For instance, many copyright infringements concerning compact discs are the result of the activities of some POEs.

6.1.3. Foreign-Invested Enterprises in China

6.1.3.1. Foreign-invested enterprises The Chinese authorities have not defined the “other” forms of enterprises specifically. However, based on the *China Statistics Yearbook*, the “others” include companies established by compatriots from Taiwan, Hong Kong and Macao; companies with foreign operations and management, i.e. FIEs and other companies that we have not mentioned above. Here, for simplicity, we will not analyse all the companies but concentrate on FIEs.

The term, FIEs, refers to enterprises with foreign investment and operations within Chinese territory. FIEs usually take one of four forms: wholly foreign-owned enterprises (WFOEs), equity joint ventures (EJVs), contractual joint ventures (CJVs) and joint exploration (JE). WFOEs refer to the enterprises with foreign operations within China where the foreign enterprises own 100% of the foreign subsidiaries (*WFOE Law* 1986: Article 2). The operations of such enterprises are mainly guided by the *WFOE Law* and *WFOE Implementation Regulations*.²

² The *WFOE Law* refers to the *Law of the People’s Republic of China on Foreign-Capital Enterprises*, which was promulgated in 1986. The *WFOE Implementation Law* refers to the *Implementation Regulations for the Law of the People’s Republic of China on Foreign-Capital Enterprises*, which was announced in 1990.

EJVs are Sino-foreign limited liability companies with a legal person status. Foreign investors must invest cash, equipment and machinery, technology and/or IP to a minimum value of 25% of the registered capital. Partners jointly manage the enterprises and share profit, losses and risks, all based on the proportion of the registered capital (*EJV Law* 1979 and 1990: Article 4). EJVs are guided principally by the *EJV Law* and the *EJV Implementation Regulations* in China.³

CJVs are Sino-foreign companies in which different parties pool assets together, operate the companies, distribute their dividends, and bear their risks and losses, all based on the agreement in a contract (*CJV Law* 1988: Article 2). This type of joint venture is guided by the *CJV Law* and the *CJV Implementation Regulations*.⁴

JE occurs where the relevant Chinese government and a foreign company (or foreign companies) sign a contract for the exploration of resources, such as oil, within Chinese territory. The foreign party or parties invest, explore, produce and make a profit from the projects during the contractual period. At the end of the contract, the exploration projects should be transferred to the Chinese government (Wang 1995: 59). This type of project is mainly to explore oil fields and, thus, it is also referred to as joint oil exploration.

6.1.3.2. Significance of FIEs The significance of the FIEs in China can be seen from the rapid growth in their operations over the last two decades, and the role they have played in the development of the Chinese economy. From 1979 to 1997, China received inward FDI projects of an average size of some US\$2 million.⁵ From 1979 to 2000, the total contractual value reached US\$677,906 million, with actual utilisation value at US\$ 349724 million (MOFTEC 2000).⁶ Since 1993, China has been the second ranked country in the world in terms of attracting inward FDI, only the US received greater

³ The *EJV Law* here refers to the *Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures*, which was promulgated in July 1979 with amendment in April 1990. The *EJV Implementation Law* refers to the *Implementation Regulations for the Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures* announced in 1983 and amended in 1986.

⁴ The *CJV Law* here refers to the *Law of the People's Republic of China on Chinese-Foreign Contractual Joint Ventures*, which was announced in April 1988. The *CJV Implementation Law* refers to the *Implementation Regulations for the Law of the People's Republic of China on Chinese-Foreign Contractual Joint Ventures*, which was promulgated in September 1995.

⁵ The average size of FDI is calculated by the author, based on the contractual value of FDI in the *Almanac of China's Foreign Economic Relations and Trade* (1984–1998).

⁶ Contractual value refers to the investment by foreign business people according to the value in contracts or agreements. Actual utilisation refers to the amount of investment actually used according to agreements and contracts (MOFTEC 1997–2000: 681).

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investment (*op cit*). The inward FDI in China accounted for one fifth of the total in developing countries. The impact of FDI can be seen clearly in its effect on the development of the Chinese economy.

Growth of foreign-invested enterprises The growth in the number and value of FIEs in China has been dramatic in the past two decades. Figures 23 and 24 provide information about the number of projects, their contractual and actual utilisation value from 1979–2000. Until 1990, the number of FDI projects remains very low. However, from 1991, there has been a tremendous increase in the number of projects and their contractual value. The contractual value reached its peak in 1993, and then slowed down to reach a level from 1997 to 2000 similar to that in 1992. The figure in terms of FIE projects shows broadly the same picture, although the number of projects in 1997 was down on 1992. This pattern emerges, in part, because most MNEs had finished their early stage of investment and entered into an operational period. The figure also shows that the actual utilisation of FDI has increased tremendously in recent years. In 1999, the realisation ratio of FDI was 98% and has reached the highest ratio since 1979.⁷

The growth of FIEs in terms of project numbers and values implies at least two things. First, the data reflects the attraction of the Chinese market. Although there is still a big cultural gap with Western investors, China forms a huge market with almost 1,300 million consumers. Cheap labour and the low cost of raw materials have also motivated foreign investors. In addition, the Chinese government has played a very supportive role, reflected in part by the promulgation and modification of different laws and regulations to improve the existing investment and operational environment. These changes indicate the determination of the Chinese government to attract foreign capital and technology. The second implication relates to the fact that different investors have become more confident in the political and economic environment within China in the 1990s.

Significant performance of foreign-invested enterprises The role and impact of FIEs can further be seen from their outstanding performance in the Chinese economy. As Ma, the Assistant Minister of MOFTEC said, “Foreign-invested enterprises have become an important development point in the Chinese national economy”. Since 1992, China has sustained its GDP growth at a rate

⁷ The realisation ratio of FDI is equal to the actual utilisation value of FDI divided by the contractual value, multiplied by 100.

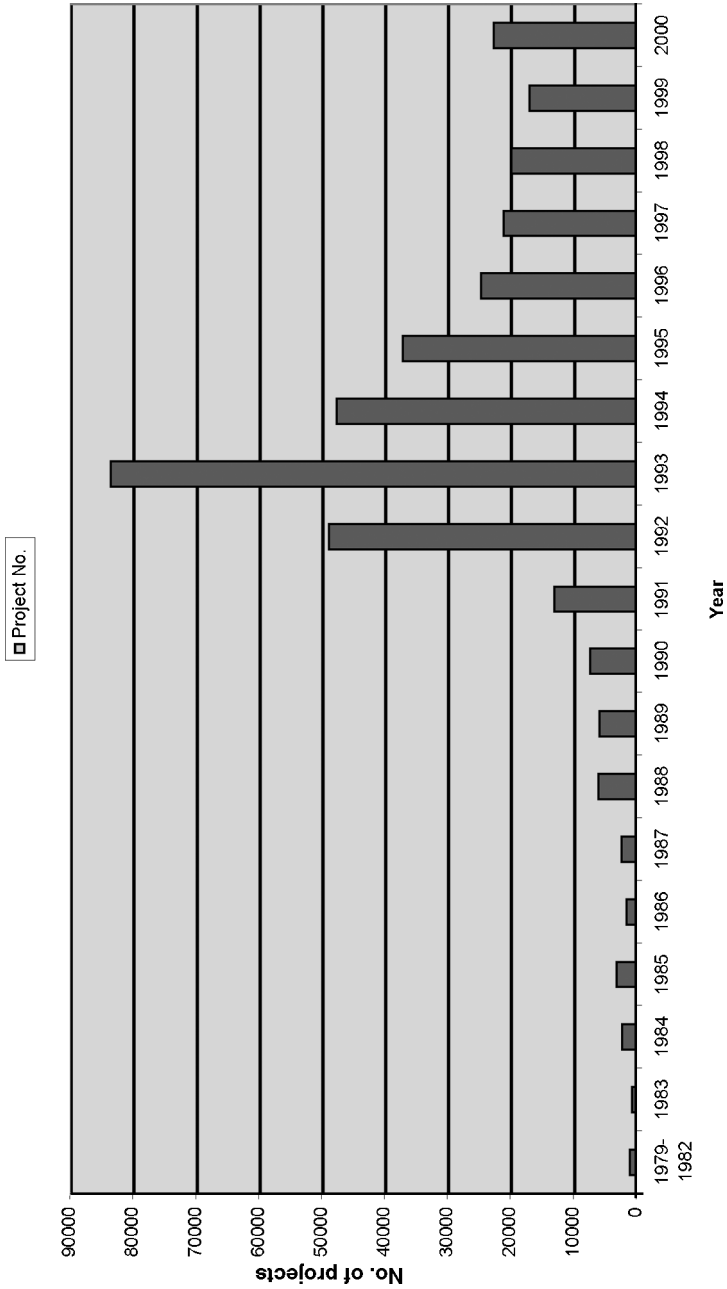


Figure 23: FDI projects in China (1979–2000).

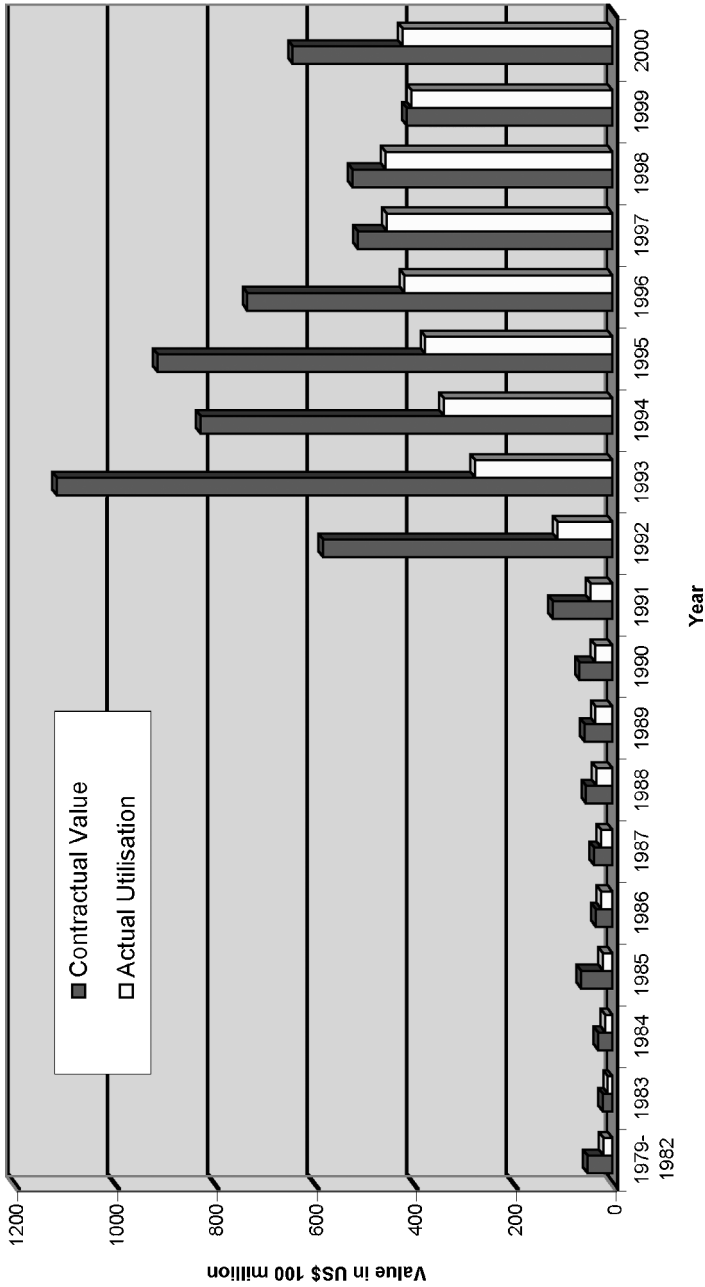


Figure 24: FDI in contractual value and actual utilisation (1979–2000).

of 10% per annum. FIEs have played an important role in the economic development, with FDI as a proportion of GDP rising from 0.31% in 1983 to 5.42% in 1993 (UNCTAD 1994: 68). Many other indicators also confirm this finding (MOFTEC 2000). The actual FDI capital in 1999 was US\$403,18 million, accounting for 11.79% of the total investment in fixed assets in comparison with 4.15% in 1991. Industrial output of FIEs was US\$1769,600 million in 1999, taking up 27.75% of the total output in the same year in comparison to 2.28% in 1990. Meanwhile, their industry value-added was US\$420,100 million, accounting for 20.69% of the total in China. Moreover, the corporate tax revenue from FIEs covered 16% of the national industrial and commercial tax revenue, with a value of RMB 164,886 million yuan in 1999. This has been the most rapidly growing source of tax revenue in China. In addition, FIEs have employed increasing numbers of workers, such that, by the end of 1997, they employed 17.5 million people in China.

The most important role of FIEs relates to the expansion of imports and exports in China — the growth of international trade is the most fundamental proof of openness. Since 1979, imports and exports by FIEs have increased significantly. Figure 25 provides evidence of this from 1987, demonstrating not only the upsurge of import and export activities each year, but also that the two tend to become more balanced with time. This has been ascribed, in part, to the encouragement of exports and interventions on imports to FIEs by the Chinese government. The FIE imports and exports as a percentage of the national total imports and exports increased from 6% in 1987 to 51% in 1999 (www.moftec.gov.cn). The data presented above clearly show that, over time, FIEs have become an increasingly important part of the Chinese economy. As Sun (1998: 166) argued, “FIEs have become a dynamic part of the Chinese economy and play a leading role in economic growth [in China]”.

6.1.3.3. Features of FIEs The following description reveals the main features of the FIEs. FIEs in China can be distinguished by their: country of origin, forms of FIEs, sectors, spatial distribution and the level and nature of technology transfer (MOFTEC 1983–2000; Sun 1998; Qu & Green 1997). In terms of source countries, FDI has been highly concentrated amongst the top eleven countries and regions accounting for over 90% of the total inward investment (see Figure 26). Here, we include the investment from Hong Kong, Taiwan and Macao for the purpose of comparison. The overseas Chinese have dominated the investment, although countries, such as Japan, the USA, EU and NICs have also played very important roles. With regard to technology, developed countries have much higher technology and capital intensities than most other groups.

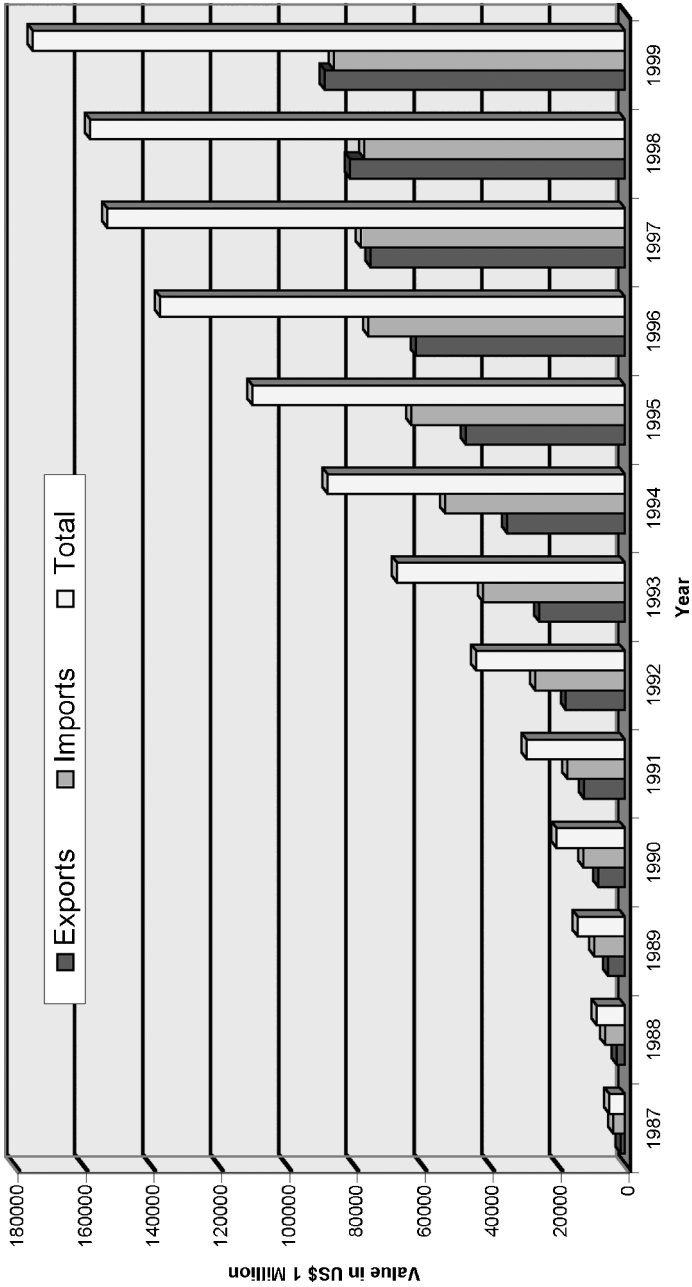


Figure 25: FIE imports and exports in China.

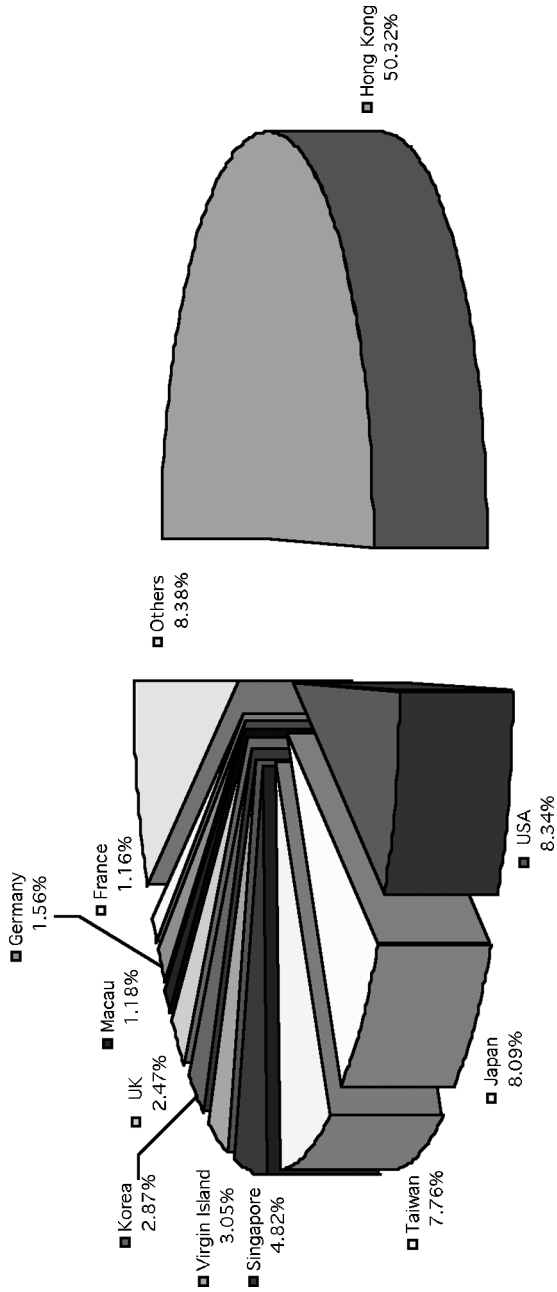


Figure 26: FDI broken down by country or regions of origins.

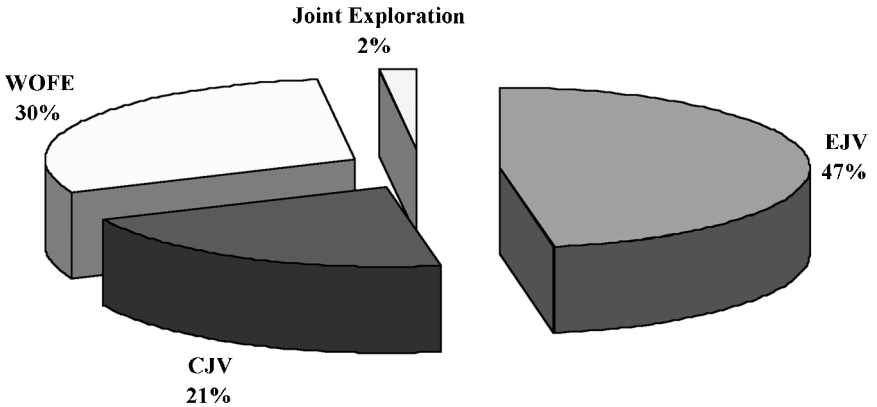


Figure 27: FDI inflows by forms in China.

In terms of FDI forms, there have been very divergent trends (see Figure 27). EJVs have dominated FDI in China, although WFOEs have come to a close second in recent years. This has been attributed to the government policy preference for EJVs, as the government believes that EJVs constitute the most direct way to learn from foreign technology and techniques. WFOEs have developed very rapidly in recent years. This is because the Chinese government has loosened restrictions on WFOEs (such as the need for 100% ownership), and there has been increasing confidence amongst foreigners in the investment environment. CJVs and especially joint exploration have become relatively insignificant, although they were very dynamic during the early stages of development. Amongst the four different investment types, WFOEs have a higher technology level than other forms, while EJVs are next in terms of the level of technology transferred (Sun 1996; Du 1996).

With regard to the sectoral distribution of FDI, most foreign investment in China has gone into industrial sectors at almost 60% of the total investment (see Figure 28). Real estate followed as a second outstanding recipient accounting for almost 25%. Other sectors follow far behind fragmentally with a percentage of less than one for most sectors. Amongst all the industrial sectors, half of the FDI have been in the labour intensive industries. This demonstrates the intentions of most investors on exploiting cheap labour resources in China. Almost 23% of the investment has gone to the technology intensive sectors. The remainder has been directed to the capital intensive sectors (OECD 2000: 8).

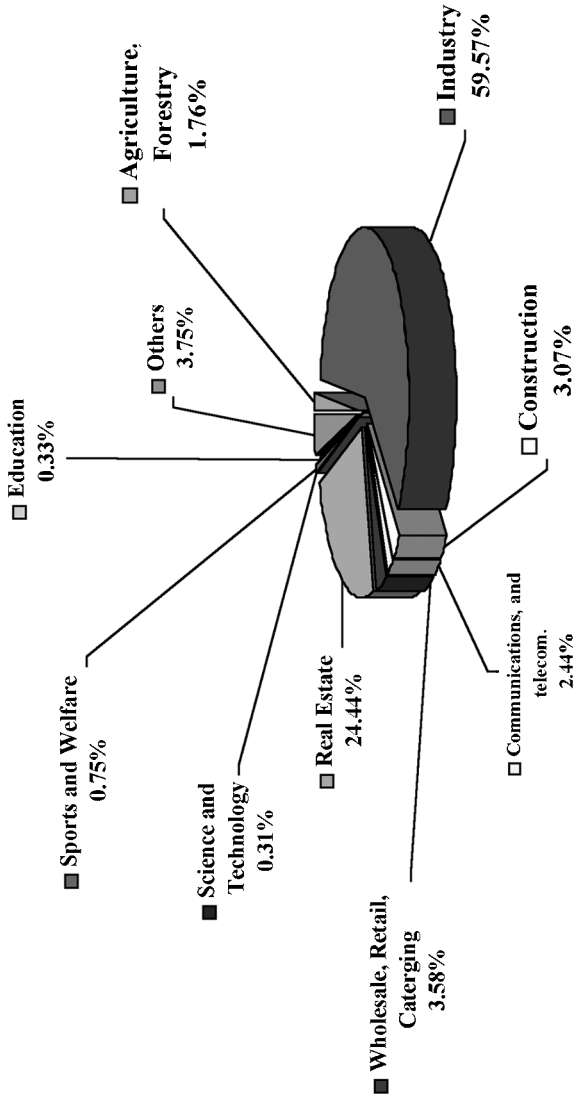


Figure 28: FDI Inflows by sectors in China until 1999.

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Finally, in terms of the spatial destination of FDI, there is an enormous gap between the East, comprising 88% of the total, and the remainder of the country (i.e. the centre and West) just 12%. Guangdong Province has remained the most important destination for FIEs from the very beginning. Investment has also been distributed in big coastal cities along different eastern provinces and municipalities. The uneven distribution is partly because the eastern part of China enjoys a preferential policy offered by the government after 1979, and has better infrastructure, and human resources, and a higher proportion of the overall market. Moreover, there are historical reasons, as the industrial base in China has been established along the coast and in the big cities since 1949.

This section helps to illustrate some of the complexities of China in terms of the different types of companies, both domestic and (partly) foreign owned, and their distribution across different sectors of the economy. Today, China is still a largely agricultural-based society, although industries have developed very rapidly in recent years, outstripping agriculture in their contribution to GDP if not employment. The industrial development is further transforming away from the earlier focus on heavy industries (as well as defence and satellites) towards more balanced, civilian-oriented production activities. Chinese companies include domestic companies with only Chinese operations, such as SOEs, COEs and POEs. FIEs include mainly WFOEs, EJVs, CJVs and JE. In the last two decades, they have developed dramatically and, in part by offering high remuneration, they have attracted many talented and motivated people. Regarding technology transfer, developed countries have brought much higher technology than most other investors (Qu & Green 1997). This analysis is compatible with the research drawing on information about IP flows (Bosworth & Yang 2000). WFOEs own the most sophisticated technology for operation and development. Most foreign capital has gone into the industrial sector (as opposed to services), but has been widely spread over different industries, especially manufacturing.

6.2. Technology in China

6.2.1. Reform of the Science and Technology System

Until the late 1980s, there were eight million researchers and 10,000 research institutions in China (Worden *et al.* 1987). However, these expensive resources were under-exploited and, hence, exhibited very low productivity. In one word, scientists and the associated science base failed to meet the economic needs of China. The main problems in science and technology were clearly identified in

1982 when the then Prime Minister, Zhao Ziyang made a speech to the National Science Awards Conference. The speech included five major points:

- (a) The very unbalanced development and lack of co-ordination in different scientific fields were further reflected in a corresponding unevenness in industrial development;
- (b) There was lack of communication and collaboration between research institutions and production units. For instance, from 1979 to 1985, scientific and technological discoveries increased from 2,790 to 10,000 and inventions from 42 to 264 (*op cit*). However, most of the discoveries and inventions remained commercially unexploited, in part because of the failure in the lines of communication between institutions and enterprises. This situation was accentuated by poor management, which emphasised production quotas rather than invention and innovation;
- (c) The duplication of research and research facilities resulted in unnecessary and wasted expenditure;
- (d) The various institutions, administrative bodies and hierarchies operated as rivals rather than collaborators;
- (e) A mal-distribution of personnel resulted in some institutions being overstaffed and others understaffed. In addition, there was a serious shortage of “middle-aged” researchers as a result of the Cultural Revolution. As a consequence, researchers had become scarce in China, for instance, only three people out of 10,000 were in research in China, compared to 31 in the US (Worden *et al.* 1987).

Prime Minister Zhao’s speech drew attention to the need for fundamental reforms to science and technology framework. Immediately following the speech, extensive discussions on the management of science and technology started. It was made very clear that poor quality management, including the lack of incentives for good performance, meant that the science and technology establishment in China contributed little to the industrial production and economic growth. In 1985, China issued the *Resolution on the Reform of the Science and Technology Management System* aiming at realigning science and technology to assist in economic development, by intensifying institutional and corporate collaboration.

Since then, Chinese R&D efforts have also undergone reform and fundamental change.

- First, the institutions have been required to become more “self-sufficient” and either partly or completely independent of state funding. They

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established venture businesses to support and exploit their R&D in order to realise commercial benefits from their research (Sirp *et al.* 1998: 189). For example, there are over 500 science and technology enterprises under the auspices of the Chinese Academy of Science (*op cit*). These venture businesses help subsidise funding for science and technology and accelerate the transition of new ideas from the research base into commerce;

- Second, the exchange of information, personnel and services amongst institutions and enterprises has been encouraged in order to share knowledge and facilities, and avoid the repetition of research projects and the duplication of R&D findings;
- Third, young, bright scientists educated abroad are being attracted into senior positions in R&D institutions;
- Fourth, research institutions, such as universities and research bodies, have become competitive in their search for research contracts with industrial enterprises. Competition like this not only enhances co-operation amongst enterprises and research institutions but also increases the quality of industrial research;
- Finally, some important government grants have been established, such as the National Nature Science Foundation of China, and 863 Programme in order to stimulate R&D activities.

Obviously, R&D in China has been strongly affected by the buoyant market economy since the early eighties. Lack of funding, shortages of R&D staff and keen competition create continuing difficulties. However, one thing is clear, that R&D and technology application will function more effectively in the context of a “market” with effective management (*op cit*: 190).

6.2.2. *Overall Level of Industrial Technology*

Although China has undergone significant changes in the organisation and level of R&D activity over the past 20 years, it has yet to see the full benefits. China is at the forefront of technology in a few areas, such as satellites and weaponry (Worden *et al.* 1987). Nonetheless, on balance, industrial sectors, such as machinery and equipment, lag behind that of developed countries because China failed to establish a sound base of industry-related R&D. Historically, Chinese efforts emphasised pure R&D with little consideration given to the industrial application of the findings of this work. There remains a considerable way to go before this situation is rectified, and the technology level is brought in line with that of developed countries.

While the overall industry-related level of technology is low, the experience across sectors is diverse. Taking the metal producing and electronics industries as examples, when China just opened its economy, the level of technology in the former was far higher than in the latter (*op cit*). The reasons are clear. First, the former had a much sounder industrial base than the latter. Second, the former exhibited higher levels of innovation than the latter because it had made much more effort to combine research activities and industrial applications within enterprises. In contrast, the electronics industry had not found it easy to transform itself because enterprises and institutions had been more compartmentalised. Moreover, while major metal producing enterprises undertook their own product R&D, most electronic complexes did not. Finally, firms in the metal producing industry had also made greater effort to assimilate foreign technology. For instance, cold-rolling technology from Germany was transferred into one of the largest iron and steel complexes in China. The electronics industry could not benefit from foreign technology as quickly or to the same degree, because of a lack of raw materials, reliable power supplies, limited manpower, etc. The electronics industry was one of the typical examples of Chinese industries, which had limited resources to conduct indigenous R&D and innovation, and to help in the assimilation of sophisticated technologies from abroad. Now, the electronics industry is one of the fastest developing industries in China. From 1996 to 2000, the electronics industry was expected to grow at 20% a year (www.corporateinformation.com). It is now China's pillar industry and the fifth electronic giant in the world (*op cit*).

6.2.3. Technological Gaps Between Chinese and Foreign Firms

The fundamental condition of ITT is the existence of a technology gap (with the flow from higher to lower levels of technology). Such a gap can clearly be seen between the Chinese recipients and foreign transferors. The foreign investors' technology level was higher than their local partners, with a gap of between 10 and 25 years (Ball *et al.* 1993; Lan 1997; Wu 1989; Zhao 1995). Western investors transferred much higher technology than other investing groups (Qu & Green 1997; Sun 1998), and the existence of technology gaps between China and developed countries in particular, forms the foundation for the ITT and IP flows into China.

Lan categorised technology in FIEs into high, medium and low levels. Joint ventures (JVs) accounted for 83% of the high and 68% of the medium transfer projects (Lan 1997: 253). They were also the worst in low technology transfer, accounting for 83%. Transfer of trade secrets only occurred in about 25% of

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Lan's sample of interviewed companies. Part of the reason perhaps comes from the limits placed on trade secret investment.⁸

The technology gaps between FIEs and CDEs are shown more specifically from an analysis of the "adequacy" of technology, where "adequacy" has been analysed by comparing CDEs and FIEs based on data from the *China Statistical Yearbook* (Sun 1998: 82–88). Sun argues that capital intensity is an indication of the adequacy of technology (i.e. the higher the capital intensity, the higher the technology content). Capital intensity can be measured by fixed capital *per* unit of labour or by the ratio of the value of fixed capital to total wages. Table 13 shows the average capital intensity, and provides an average efficiency comparison between domestic enterprises and FIEs from 1987 to 1995. Table 14 shows an efficiency comparison between SOEs and FIEs in selected industries in 1995. Both tables indicate there was a large efficiency gap between CDEs and FIEs. The average capital intensity in all the listed industries in 1995 was RMB 91,800 yuan per employee in the FIEs compared to RMB 56,900 yuan in the SOEs. The technology-intensive industries tend to show an even greater gap, for instance, in the case of the pharmaceutical and chemical industries. All these results reflect the greater technology content amongst FIEs than domestic companies.

Tables 13 and 14 report on a comparison of capital and labour productivity based on Sun's analysis of data from the National Bureau of Statistics in China.⁹ The data suggests that both dimensions of productivity were significantly higher for FIEs than CDEs. In the whole industry sector, the labour and capital productivity were RMB 58,000 yuan and 1.21 yuan in SOEs compared to RMB 162,200 and 2.15 yuan in FIEs. In the technology-intensive industries, the gap was even larger over this period. These two figures tend to suggest that FIEs possessed better quality workers and more effective managers, as well as higher technology and more advanced techniques.

The significant gap between the two types of enterprises may also be associated with differences in ownership structure. As we know, SOEs are state-owned and FIEs are either fully or partially under private ownership. Thus, their management systems are different, which are also likely to influence technological activities. FIEs have higher management ability, use

⁸ According to the Chinese *EJV Law*, foreign partners can invest in cash, machines and equipment, and IP. But there is a ceiling that limits IP investment to a maximum of 25% and only 10% for know-how investment. The reason from the Chinese government's point of view is that technologies cannot be fully used as a fixed investment in a company because they devalue over time and eventually become obsolete.

⁹ Labour productivity refers to the average output *per* employee. Likewise, capital productivity is output produced by one unit of capital.

Table 13: Performance ratios of domestic enterprises and foreign-invested enterprises.

Indicators	1987		1988		1989		1990		1991		1992		1995								
	FIEs	DES RATIO*	FIEs	DES RATIO	FIEs	DES RATIO	FIEs	DES RATIO	FIEs	DES RATIO	FIEs	DES RATIO	FIEs	DES RATIO							
1. Capital/Labour	8.38	7.28	0.13	7.70	6.91	0.10	8.64	7.14	0.17	9.66	7.98	0.17	8.54	7.96	0.07	7.43	7.05	0.05	8.22	5.86	0.29
2. Fixed Capital/ Employees	26.40	12.90	0.51	2.64	1.41	0.47	3.20	1.65	0.48	43.00	19.10	0.56	54.80	21.40	0.61	45.40	24.70	0.46	68.40	42.20	0.38
3. Incremental Output-Capital Productivity	2.04	1.66	0.19	1.81	1.93	-0.07	1.22	1.20	0.02	1.25	0.47	0.62	1.74	1.09	0.37	0.84	0.56	0.33	1.19	0.96	0.19
4. Average Capital Productivity	2.58	1.79	0.31	2.68	1.96	0.27	2.34	1.99	0.15	2.02	1.84	0.09	2.49	1.81	0.27	2.73	1.92	0.30	2.22	1.62	0.27
5. Average Labour Productivity	58.60	15.90	0.73	58.40	19.30	0.67	56.20	22.90	0.59	81.80	24.60	0.70	93.60	27.30	0.71	105.10	33.40	0.68	113.00	40.40	0.64
6. Export/Output output Ratio	0.27	0.34	-0.26	0.24	0.29	-0.21	0.25	0.28	-0.12	0.26	0.27	-0.04	0.23	0.27	-0.17	0.38	0.09	0.76	0.39	0.11	0.72
7. Value-added- output Ratio	0.27	0.34	-0.26	0.24	0.29	-0.21	0.25	0.28	-0.12	0.26	0.27	-0.04	0.23	0.27	-0.17	0.24	0.28	-0.17	0.24	0.29	-0.21
8. Profit Ratio (%)	9.31	9.23	0.01	9.40	8.50	0.10	7.44	6.30	0.15	6.41	3.27	0.49	5.63	2.98	0.47	6.39	3.27	0.49	4.00	2.90	0.28
9. Average Size of Fixed Capital	4.67	2.19	0.53	5.74	2.53	0.56	6.93	2.97	0.57	8.91	3.45	0.61	8.73	4.10	0.53	9.77	4.78	0.51	11.90	7.11	0.40

Notes: 1. The capital-labor ratio = the net value of fixed capital/ the total wages. 2. Fixed capital per employee = the original value of fixed capital/number of employees, the unit is RMB 1,000 yuan.
 3. Incremental output-capital ratio = change in output /change in total capital (i.e. investment). 4. Average capital productivity = total output value/total value of fixed capital used in the same year, i.e. output per unit of fixed capital (the unit for both output and capital are yuan). 5. Average labour productivity = total output value/number of total employees, the unit is 1,000 yuan. 8. Profit ratio = net profit/sales revenue. 9. Unit for the average size of fixed capital is one million yuan. * Performance Ratio = (FIEs-DES)/FIEs.
 Source: Calculated by Yang based on Sun (1998: 85).

Table 14: Performance ratios of SOEs and FIEs in selected industries.

Industrial Productivity	Fixed Capital/ Employees (Unit: 1000)		Output/Fixed Capital in Production (Unit: Yuan)		Output/ Employees (Unit: 1000 Yuan)		Scale					
	SOEs	FIEs	SOEs	FIEs	SOEs	FIEs	SOEs	FIEs				
(FIEs-SOEs)/FIEs												
Food Processing	95	104.8	0.09	2.35	3.68	0.36	95	331.3	0.71	7.6	10.5	0.28
Food Manufacturing	32.1	93.8	0.66	1.58	1.73	0.09	43.4	141.8	0.69	5.3	10.4	0.49
Beverage Manufacturing	49.1	160.2	0.69	1.59	1.57	-0.01	64	210	0.70	13.1	17.2	0.24
Tobacco Processing	153.4	460	0.67	2.95	2.75	-0.07	316.5	1081	0.71	15.6	60.4	0.74
Textile	27.6	79	0.65	1.72	1.95	0.12	40.2	124.8	0.68	28.9	12.4	-1.33
Garment and Other Fabric	21.1	24.6	0.14	2.23	4.11	0.46	40.7	82.3	0.51	4.8	3.7	-0.30
Leather Products	23.4	23.2	-0.01	1.69	4.19	0.60	34.5	89.5	0.61	6.5	5.4	-0.20
Timer Processing	33.5	58	0.42	0.95	1.82	0.48	26.5	89.5	0.70	7.1	5.9	-0.20
Furniture	24.8	49	0.49	1.47	2.28	0.36	33.3	92.6	0.64	2.5	4.8	0.48
Paper Making	45.7	104.6	0.56	1.36	1.66	0.18	49	149.7	0.67	18.6	11.2	-0.66
Printing	31.7	147.6	0.79	1.13	1.11	-0.02	30.5	135.2	0.77	4.9	9.4	0.48
Stationery	23.2	27.5	0.16	2.06	3.63	0.43	38.2	82.1	0.53	4.6	5.3	0.13
Petroleum Processing	155	63.1	-1.46	2.1	2.2	0.05	128	111.7	-0.15	24.2	6.1	-2.97
Chemicals	61	127.3	0.52	1.06	2.32	0.54	51.7	245.4	0.79	33.3	10	-2.33
Pharmaceuticals	44.4	97.3	0.54	2.02	2.48	0.19	67	200	0.67	15.5	10.6	-0.46
Chemical Fiber	93.2	228.4	0.59	1.24	1.07	-0.16	95.2	212.6	0.55	11.1	33	0.66
Rubber Products	40	56.6	0.29	2.08	2.67	0.22	60.6	126.3	0.52	25.5	14.8	-0.72
Plastic Products	41.9	98.4	0.57	1.5	1.83	0.18	52.9	147.5	0.64	6.9	8.3	0.17
Non-metal Mineral	42.2	128.9	0.67	0.96	0.91	-0.05	33.3	100.2	0.67	16.3	17.8	0.08
Ferrous Metal Smelting	108.3	150.3	0.28	0.69	2.27	0.70	53.4	267	0.80	27.6	34.1	0.19

Table 14: Continued.

Industrial Productivity	Fixed Capital/ Employees (Unit: 1000)		Output/Fixed Capital in Production (Unit: Yuan)		Output/ Employees (Unit: 1000 Yuan)		Scale					
	SOEs	FIEs	RATIOS	SOEs	FIEs	RATIOS		SOEs	FIEs	RATIOS		
Non-Ferrous Metal Smelting	78.2	136.1	0.43	1.4	2.54	0.45	92	289.2	0.68	8.9	17.8	0.50
Metal Products	28.8	105.3	0.73	1.58	2.11	0.25	37.4	187.2	0.80	7	10.4	0.33
General Machinery	33.5	85.9	0.61	1.42	2.45	0.42	39.3	169.4	0.77	18.6	11.7	-0.59
Special Machinery	31.5	65.7	0.52	1.52	2.65	0.43	40.1	141.1	0.72	16	55.6	0.71
Transport Equipment	43	126	0.66	1.89	3.54	0.47	64.8	367.1	0.82	27.7	19.8	-0.40
Electrical Machinery	35.4	83.2	0.57	1.79	2.72	0.34	52.5	185.5	0.72	14.9	12.7	-0.17
Electronic Equipment	43.3	93.1	0.53	2.09	4.05	0.48	72.3	292	0.75	23.6	16.7	-0.41
Meter, Office Machinery	28.7	54.5	0.47	1.14	3.74	0.70	27.6	160.7	0.83	12.7	5.7	-1.23
Overall Average	56.9	91.8	0.38	1.21	2.15	0.44	58	162.2	0.64	28.9	12.2	-1.37

Notes: Scale refers to fixed capital scale on average in each firm. Source: Calculated by Yang based on Sun (1998: 86).

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more advanced technology and have a higher product quality. As a consequence, the inflows of foreign technology have pushed a large number of SOEs to the verge of bankruptcy. In response, the Chinese government has stipulated that China should pay special attention to 1000 SOEs and leave the others to their fate, *viz.* closure, merger or transfer of their businesses to new lines of activity.¹⁰

6.3. China — Technologically Competitive Market

Apart from the sluggish performance of most SOEs', it is the inflows of foreign technology and foreign capital — and their stimulation of dynamic competition in the Chinese market — that has attracted the attention of scholars and business people. There is a tendency for people to imagine MNEs competing with one another in China. Whilst they do compete, very few scholars and business people have realised that a number of Chinese corporations have also joined the competition or are ready to do so, including corporations in high technology industries.

6.3.1. China — a Battlefield for Investors

There is no lack of evidence in this regard, as China, after all, has now had its door open for more than 20 years. Most of the world's giant companies have more or less found their niche in China.¹¹ Large foreign players are dominating some important Chinese markets, including General Motors, Motorola, Ericsson, Nokia, General Electric, Kodak, Sony, Hewlett Packard and Procter Gamble. There are 549 FIEs in the car manufacturing industry (Sun 1997: 109). The top five companies are all joint ventures including (Sino-German) Shanghai Volkswagen and First Auto Volkswagen, (Sino-American) Beijing Jeep Corporation, (Sino-Japanese) Tianjin Daihatsu, and (Sino-French) Guangzhou Peugeot (*op cit*). Trade names matter because Chinese people have become increasingly conscious of them. For example, McDonald's fast food

¹⁰ Interview to Qu Weixi, at that time the Deputy Director of Yantai Economic and Technological Development Zone, was conducted in June 1997.

¹¹ However, no companies would say that business in China was easy. As the US Secretary of Commerce, William Daley has argued, only a few companies have been successful so far (Nicholson 1998: 60). They compete fiercely in China for market share and profit. Small companies find it difficult to survive, and even a big player like Peugeot is pulling out from China (Economist 1997).

has been highly successful in China. It has already established 58 franchised restaurants in Beijing and 100 in other cities.¹² More chains are emerging in different cities with rapidly growing popularity.

In high technology markets, foreign players are taking advantage of their advanced technology to satisfy the increasing level of demand for such products within China. For instance, China has become the largest market for pagers, the second biggest market for mobile phones (with a reported 25,000 new subscribers daily) and telephone lines (with 33,000 buyers for handsets every day) (Anon 1998a). In this rapidly developing high technology market, three companies tend to dominate — Ericsson, Nokia and Motorola. Motorola is also producing the power PC chips in China — the main rival to Intel's Pentium processor (Schoenberger 1996: 116). In the computer market, AST and Compaq are in the middle of a cut-throat battle to be the market leader in China. In the semiconductor industry, Northern Telecom, Intel and Phillips have all established manufacturing plants in the same city, Shanghai. Meanwhile, Ericsson is located in Nanjing and Motorola in Tianjin for semiconductor fabrication (*op cit*). Thus, there is little doubt that China is attracting the most sophisticated companies in the world for technology.

6.3.2. Potential Rivalry from a Local Elite

Despite the fierce rivalry amongst foreign investors, some local Chinese companies are also emerging as strong competitors. Telecommunication equipment is a typical example. In 1996, MNEs competed amongst themselves for 90% of the Chinese telecom-equipment, but they now also face new local opponents, and their market share in China has shrunk to less than 50% (Anon 1998a: 64–66). The same situation is happening in the computer industry. In 1994, MNEs took the lead in the Chinese market, but, by the beginning of 1998, domestic firms accounted for the majority of the home market. Other interesting examples include medical technology, power generation and the auto industry.

The reasons behind the new domestic competitors are varied, including government support, price controls, talented Chinese engineers and, the availability of suitable technology (*op cit*). However, the most important reason is that foreign technology flows have resulted in both improvements in the technology level of domestic companies and a dynamic market in China. Using the example of telecommunication equipment again, while FIEs are taking the

¹² The information was obtained by the author from McDonald's in Xi Dan, Beijing 1998.

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lead in the mobile phone market because of their technological advantage (especially Ericsson, Motorola and Nokia), Huawei and Datang are close followers. When FIEs started selling 1800 megahertz GSM switches, domestic companies had already started to test this new product. Now, some large domestic companies are even planning to expand into international markets (*op cit*).

Summary and Conclusions

This chapter has introduced different types of firms in China, including domestic companies and foreign-invested enterprises, technological situations and a technologically competitive market in China. Now, technologies are flowing from MNEs into different types of companies in China. The flows have necessitated reform of the science and technology system, bringing forth a dynamic competitive market and narrowing technology gaps. However, given that the management of IP has only started to evolve in China from the 1980s, it is perhaps not surprising that there is a dearth of research relating to corporate IP in China, although there is no lack of legal case studies in related areas.

Chapter 7

Critical Review of the Current Intellectual Property System in China

Introduction

In Chapter 4, we introduced the current IP system — the triple power of legislative guidance, administrative control and judicial enforcement. The triple system itself and IP activities (Chapter 5) under this system have both proved the great progress that Chinese government has made in creating and improving IP environment in China. However, it is inevitable to see disparities in this young system. After all, the system has only been established for a little over a decade.

The purpose of this chapter is to critically review this system and reveal the disparities existing in legislation, administration and enforcement of IP in China.

7.1. Problems of Legislation

7.1.1. Problems

7.1.1.1. One law protects three rights As we have noted, the *Patent Law* in China protects three different forms of “patent rights”, i.e. invention patents, utility model patents and industrial design patents. A strong case can be made for the argument that separate forms of protection for the three rights would be more appropriate. The evidence is as follows:

One law protection is not in line with international stipulations According to the WTO’s *TRIPS* agreement (Article 25.2):

“Each member shall ensure that requirements for securing protection for textiles designs, in particular in regard to any cost,

examination or publication, not unreasonably impair the opportunity to seek and obtain such protection. Members shall be free to meet this obligation through industrial design law or through copyright law”.

The article very clearly indicates that textile designs should either be protected by a special law — industrial design law or through copyright law. The Paris Convention on industrial designs provides no indication of the type of protection, except a general statement “industrial designs shall be protected in all the countries of the Union” (Article 5^{quinquies}). The *TRIPS* agreement indicates a minimum standard and term for protection, minimum exclusive rights, and “assurances that procedures for protection of textile designs are not unduly burdensome” (www.wipo.org). In China, textile designs are protected by industrial designs under the *Patent Law*.

Separate protection would better motivate right holders As discussed in the previous chapter, on balance inventions represent more advanced progress than utility models and industrial designs in terms of the level of technology. Both inventions and utility models require novelty, inventiveness and practical applicability to obtain protection rights (Article 22). However, the requirement with regard to the extent of inventiveness for inventions is much higher than that for utility models. Inventions represent “prominent substantive features” and “notable progress” in comparison to only “substantive features” and “progress” (*op cit*). The distinctive requirement for the granting of these two rights suggests that separate protection would make inventions more distinctive than utility models, and perhaps make invention holders better motivated towards higher levels of technological contribution. The same type of argument extends naturally to industrial designs, which have even more distinctive features *vis a vis* utility models and inventions. Inventions and utility models are linked in various degrees to a technological solution with respect to a product or a process; industrial designs are associated with artistic features, shape, configuration and industrial application — for which only novelty is needed for grant. This further substantiates the argument that the three rights should be protected under separate laws.

Separate protection would not mislead consumers Inventions, industrial designs and utility models are all called patent rights when granted in China, although there is a distinction between invention patents, utility model patents and industrial design patents. From most consumers’ perspective, they do not have the knowledge to enable them to differentiate between the three different rights. When a patent for utility model is granted, the manufacturer may

indicate this on the product in order to attract consumers. As a consequence, the consumers may assume that the product represents a significantly greater technological advance than is in fact the case, with the result that consumers are misled and their interests are not best served.

7.1.1.2. Two-tier legislative system The two-tier legislative system inevitably causes inconsistencies. It gives the second-tier organisations flexibility to adjust their policies based on the special situations in their own areas. However, it has two obvious disadvantages. First, there is no specific code of practice to guide the rules and regulations stipulated by the second-tier provincial and ministerial governments. As a consequence, it is inevitable that there is inconsistency in the rules between the first and second tiers. Second, there are no co-ordinating organs to deal with conflicting rules and regulations stipulated at the same level across provinces or ministerial governments. This might not be so much of a problem if ministries and provinces were isolated one from another. However, the reality is that these organs have close relationships and a high degree of interaction. Thus, the problems that arise in dealing with inter-provincial or inter-ministerial issues are inevitable.

It is essential that the central government stipulates specific regulations to regulate and harmonise the inconsistencies and conflicts that result from the two-tier legislative system (Yang 1997: 82). Although there is a general policy in the Chinese *Constitution* that “. . . no laws or administrative or local rules and regulations may contravene the Constitution”. (Article 5), the constitution does not provide specific guidelines on how to operate consistently with the first tier of policy. Moreover, ministerial and provincial governments only need to send their regulations to the central government for record (Article 100). This implies that the central government carries out little or no supervision of the consistency of the second tier regulations. As a result, some of the second-tier regulations, which could broadly be in line with the first-tier policy, might specifically contradict one another amongst the second-tier government organisations.

A further problem with the two-tier system is that laws and regulations promulgated by different tiers are often given different names in Chinese, with the same but confusing English version. Four major groups of entities in China have the authority to promulgate laws and regulations, i.e. the NPC and its Standing Committee, the State Council, ministerial government organisations and the provincial People's Congresses. The documents issued from these groups of entities relating to IP have different names in Chinese. In other words, the ones from the NPC and its Standing Committee are called “fa lǚ”, literally “law” in English, while the State Council uses “fa guī”, with literal

meaning “law and regulation”. “Bu men gui zhang”, used by the ministerial government bodies, literally means “rules and regulations from governmental departments” and “di fang fa gui”, from provincial governments, literally means “laws and regulations of the locality”. All these rules, regulations and laws from different government bodies are translated into English with the same meaning “law”. They inevitably cause confusion to foreigners, especially those with businesses in China. In addition, when two regulations are inconsistent, foreigners are often bewildered which one is right.

7.1.1.3. Ambiguous and inconsistent articles Both the *Patent Law* and *Trademark Law* in China are basically in line with the stipulations of the Paris Convention and the *TRIPS* agreement, but there still exist ambiguous and inconsistent articles. When China promulgated its first *Patent Law* in 1984 and *Trademark Law* in 1982, the Paris Convention played the role of a model law. *TRIPS* introduced new requirements for IPP and IPRs. Thus, there were amendments to both the *Patent Law* in 1992 and the *Trademark Law* in 1993 based on the *TRIPS* negotiations. However, the final *TRIPS* agreement signed at the end of 1994 has become the most comprehensive agreement relating to IP (Gervais 1998: 3). It raises a higher standard than any other previously signed conventions. Therefore, it is inevitable to see the existence of inconsistency between the Chinese IP Laws and the *TRIPS* agreement. The obvious case is the well-known trademark protection.

Before we analyse the problems of well-known trademarks, *TRIPS* and the Paris Conventions must be compared. *TRIPS* has made more progress than the Paris Convention on a number of points (Gervais 1998: 110–111):

- the expansion of protection from well-known trademarks to well-known service marks (Article 16.2);
- protection of well-known trademarks from being used for different commodities and services (*op cit*);
- a rough standard on how to verify well-known trademarks (*op cit*).

However, the *TRIPS* agreement does not stipulate how to protect the unregistered marks and how to deal with early registration by spurious owners “except that *TRIPS* incorporation of the Paris Convention means that in principle, such marks would be protected under the law of unfair competition, as they are in the US, and the law of passing off”, as they are in the UK.¹ In this respect, the Paris Convention has stipulated (Article 6 *bis*):

¹ Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001.

“Article 6bis Marks: Well-Known Marks

(1) The countries of the Union undertake, ex officio if their legislation so permits, or at the request of an interested party, to refuse or to cancel the registration, and to prohibit the use, of a trademark which constitutes a reproduction, an imitation, or a translation, liable to create confusion, of a mark considered by the competent authority of the country of registration or use to be well known in that country as being already the mark of a person entitled to the benefits of this Convention and used for identical or similar goods. These provisions shall also apply when the essential part of the mark constitutes a reproduction of any such well-known mark or an imitation liable to create confusion therewith. . . .”

In addition, the common problem of the *TRIPS* agreement and Paris Convention is that there are no specific stipulations on verification of well-known marks. Therefore, it is not surprising that the *Trademark Law* in China also exhibits this problem. However, WIPO did publicly state its standing on the ranking of different types of well-known trademarks. Table 15 shows the differences of well-known marks in terms of reputation between WIPO and China (starting from lower levels).

China’s ranking and translation on well-known trademarks are a bit misleading and, to some extent, confusing. The four different marks are all mentioned in relevant laws with different Chinese names, but with the same English translation (see Table 15). “Chi ming shang biao”, i.e. a prominently famous trademark is awarded nationally as a legal term in the *Trademark Law*. Until April 1997, there were only just over 40 such marks nation-wide (Zheng 1997: 600). A “famous trademark”, is not a legal phrase in China, but is extensively used in practice at provincial levels. For instance, in 1996 alone, the Beijing government awarded 120 famous trademarks — the so-called “Beijing brand name” (Economic Daily 1996). “Zhi ming shang biao” appears to be used only by Japan and China (Li 1996: 142). This name is mentioned in Article 5.2 and 21.2 of the *Anti-unfair Competition Law*. “Zhong suo zhou zhi de shang biao”, i.e. a publicly known trademark is mentioned in the *Trademark Implementation Law* (Article 25.2). However, all these trademarks are translated into English as well-known trademarks. This is not only confusing to foreigners, but also misleading to Chinese users, including consumers and manufacturers.

This description of well-known trademarks suggests the following problems (Li 1996: 155–156):

Table 15: Well-known Trademarks.

WIPO			
China			
	Law in Chinese	Law in English	Literary Translation
Well-known trademark	Zhong suo zhou zhi de shang biao		Publicly known trademark
Exceptionally well-known trademark	Zhi ming shang biao	Well-known trademark	Well known trademark
Famous mark	Zhu ming shang biao		Famous trademark
Marks of high reputation			Prominently famous trademark
Highly renowned marks	Chi ming shang biao		

Source: Based on Li (1996: 141).

- (1) There is no consistency with respect to well-known trademark names and symbols under different laws. This can be seen from the unclear description for different types of known trademarks in Chinese. As a consequence of the lack of clear differentiation, there has been miss-usage of trademarks amongst provinces. This has resulted from the lack of clear legal regulations. So far, the inconsistent usage has spread unchecked in China. Thus, it is important for the Chinese legislative organs to address this situation in order to avoid misleading manufacturers and consumers.
- (2) Well-known trademarks in China are very broadly defined as "... registered trademarks which are of high repute and well-known to the relevant sector of the public".² This definition is very broad for further interpretation. A specific definition is needed in order not to mislead consumers. It should also be noted, according to Professor D. Vaver from the Oxford IP Research Centre, that

"the broad definition of well-known trademarks in China seems no worse than that in many other countries. The provision requires interpretation in those countries as well. It is a well-known difficulty and WIPO has the subject under active consideration".³

- (3) Like the Paris Convention and *TRIPS*, there is no specific standard to verify well-known trademarks in China. As a result, there has been significant levels of abuse in this area, such as self-awarded well-known trademarks, well-known trademark trading, counterfeit trademarks, etc.
- (4) There is a lack of co-ordinated and unified standard for provincial level well-known trademarks. It is for the benefit of consumers and manufacturers that provincial governments recognise these high quality trademarks. However, from a national point of view, trademarks from different provinces demonstrate different standards of quality. If China stipulates a unified standard and establishes special coordinating agencies to reduce or remove the inconsistencies, brand names will become better regulated, which will bring benefits to the market.

² See Article 2 of the *Provisional Regulations on the Verification and Control of Well-known Trademarks* (1996).

³ See Footnote 1.

7.1.2. *Case Studies*

*Case I: FREON Case*⁴

Case and results In 1983, E. I. DU Pont De Nemours & Co. was not granted a trademark for “FREON” by the Trademark Office in China. The reason for rejection was that consumers and manufacturers in China had widely used “FREON” as a generic word for refrigerants in China.⁵ The company applied for further review by TRAB, based upon three arguments:

- (1) Du Pont originally created the term “FREON”;
- (2) FREON has been used as a trademark by Du Pont since 1931 and, has been registered in 91 countries;
- (3) FREON has been listed in Collin’s Dictionary as a well-known trademark.

TRAB finally approved the application after review, on the grounds that FREON is not a product but a trademark. Meanwhile, an urgent notice was issued by the Ministry of Chemical Industry in 1984, that no companies were allowed to use FREON, instead “Fluorine refrigerant” should be adopted for relevant products.

Case Analysis⁶ There were two reasons that DU Pont was rejected a registration in the first instance. First, relevant people in charge of the trademark approval may not be knowledgeable enough to know the history of all the trademarks in the world. An applicant’s obligation is to evidentially prove that his/her mark is entitled to registration. DU Pont should have provided all the relevant information, including history when first applied for registration. Second, DU Pont should again have produced evidence of its mark history to overcome a genericism objection from the Trademark Office in China. This is because a mark may be well-known in one country, but generic in another.⁷ “FREON” had been translated directly into Chinese based on the pronunciation and used in relevant products in China prior to DU Pont applications. However, DU Pont had been very persuasive and requested a

⁴ The case study was based on the case reported in Zheng (1995: 124–125).

⁵ FREON in Chinese is pronounced “fu li ong”.

⁶ Case analysis indicates the author’s and previous researchers’ analysis of the findings and outcome.

⁷ Similar examples can be seen from ASPIRIN and SHERRY debates. Both marks were lost in some jurisdictions, but not others. Regarding genericism, extensive literature can be found in the UK and US legal textbooks, such as Cornish (1999).

review. During the review, the Trademark Office realised that FREON had been used as a trademark by DU Pont for over 50 years. As a result, the trademark was approved. The approval is in line with the *TRIPS* policy on the protection of well-known trademarks.

*Case II: “1997” Trademark*⁸

Case and result In the early 1990s, a trademark “1997” was registered and approved by the Trademark Office for cigarettes, beer and spirits. Later on, the owner of “1997” sold the trademark by auction.

In 1995, the Trademark Office cancelled the “1997” trademark on two grounds. First, “1997” had a political implication, which is “. . . detrimental to socialist morals or customs, or having other unhealthy influences” (*Trademark Law*: Article 8.9). Second, the company sold the mark by auction without the approval of the Trademark Office. This is against Article 30.3 of the *Trademark Law*. As a consequence, the trademark was cancelled, resulting in an estimated loss of RMB 20 million yuan for the original applicant (Liu 1996: 228).

Case analysis

- (1) The Paris Convention allows marks to be refused registration or cancelled if “contrary to morality or public order” (Article 6^{quinquies} B.3). However, it is arguable that “1997” as a trademark has caused political harm — the Trademark Office had probably linked the mark with the hand-over of Hong Kong in 1997. Even so, there was no negative meaning in it, let alone damage caused. Moreover, the ruling that “1997” was against socialist morals, etc. may be far from clear because Article 8.9 is too vague to specify all the factors that are detrimental and unhealthy.
- (2) It is not clear whether Article 8.9 in the Chinese *Trademark Law* is non-compliant with the Paris Convention, but it is certainly arguable that this particular “1997” “year” mark should not be monopolised by one trader. For example, the Trademark Office would almost certainly stop somebody from registering as a mark the year 2008 when China is to host the Olympics.
- (3) Cancellation simply for not having prior Trademark Office approval to sell may not comply with *TRIPS* (Article 21) unless the Trademark Office believes that the trademark results in actual consumer confusion. In this case, the law ought to be written more transparently.⁹

⁸ This case study was based on the case reported in Liu (1996: 227–228).

⁹ See Footnote 1.

7.2. Problems of Administration

7.2.1. Problems

7.2.1.1. Organisational co-ordination and co-operation Lack of co-ordination and co-operation in different administrative organisations, especially the ones at the same level has caused IPP problems in China. Earlier in this chapter, we mentioned that IP applications and registrations are processed in SIPO and the Trademark Office. However, relating to IPP, there is a far more complex bureaucratic network operating at different levels. There are different layers of sub-organs dealing with trademark and patent administration and protection, such as provincial and city level IP offices. In addition, different ministerial governments are also involved in IP administration. For example, trade related IP issues go to MOFTEC, but will also be related to China Customs if the products are from abroad; pharmaceutical products go to the SDA; electronic products go to the Ministry of Electronics.

Nevertheless, there are grounds for believing that it is right to establish such a network to deal with IP problems in different provinces or ministries. China is, after all, a very big country, and specific administrative tasks need to be carried out in a decentralised way. However, the layers and the relationships between them are complicated, which leads to conflicts amongst administrative organisations at the same level, especially the agencies from the ministerial and provincial levels. Thus, the need to increase the degree of co-ordination, harmonisation and, perhaps, rationalisation is apparent.

7.2.1.2. Administrative protection and enforcement Administrative management should be enforced on three accounts:

- (1) Administrative regulations should be specified in order to have clearer guidance. For instance, the *Patent Law* has broadly stipulated in Article 60 as follows, “. . . The administrative authority for patent affairs handling the matter shall have the power to order the infringer to stop the infringing act and to compensate for the damage. . . .” However, there are no specific articles to guide the administrative punishment, except that the fine should be between RMB 1,000 yuan and 50,000 yuan (*Patent Implementation Law*: Article 78). Without specific administrative guidance, it is impossible to exert unified and effective administrative enforcement.
- (2) Administrative enforcement is required under *TRIPS* (Articles 46 and 49).
- (3) Administrative enforcement needs highly qualified administrative workers. This means that administrative workers should not only have knowledge of the IP laws, but also have experience of handling administrative disputes.

7.2.1.3. Organisational leakage problem While a framework for IPP has been established nationally, there have been no specific regulations under Chinese law about how to deal with organisational leakage. As we noted from the discussion of Chinese law, specific regulations have been stipulated to prevent and punish infringement. However, there are no specific guidelines about what should be done when an organisation dealing with IPP issues unintentionally or inadvertently leaks relevant IP secrets. This issue has been raised by a very limited number of researchers (Liu 1996: 228).

A controversial issue in Western systems is if there should be liability for inadvertent disclosure of trade secrets. The MOU and the Paris Convention prohibit conduct contrary to honest commercial standards as unfair competition. Under these standards, innocent disclosure may require at least compensation “by either the confidant or the unauthorised third party, to the confider of the trade secrets”.¹⁰

7.2.2. Case Studies

The purpose of the following two case studies is to demonstrate the important role IP administration has played and the significance of administrative co-ordination.

*Case I: “Zhu Ye Qing” Debate*¹¹

Case and results A heated debate on a famous Chinese spirit “Zhu Ye Qing” (ZYQ), literally “Green Bamboo Leaves” started in 1985. The debate was between a registered manufacturer for ZYQ in Shanxi Province and 14 other alcohol manufacturers and some related organisations. This debate concerned whether ZYQ was a generic name for spirit or a trademark. Before 1985, there had been no debate on this mark, which was re-registered in 1981. When the debate started, the owner of the trademark in Shanxi stated that they would take legal proceedings for any infringement. Moreover, the representative from Shanxi requested a meeting of the NPC for trademark protection. Meanwhile, the other side reported to the NPC and the State Council and insisted that ZYQ was a generic name for Chinese spirit and, therefore, it should be illegal to be registered as a trademark. The debate caught the attention of top government officials, the media and the ordinary consumers of spirits.

¹⁰ See Footnote 1.

¹¹ The case study was organised and translated based on the case reported in Wang (1996: 326–329).

The People's Court refused to accept this case because it was itself uncertain whether ZYQ was a trademark or a generic name. It believed that it was the responsibility of the administrative organs to deal with the case. The administrative organs decided that ZYQ was a trademark and a brand name, which should be protected nationwide.

Case analysis¹² The discussion consists of three inter-relative parts. Firstly, ZYQ may not have been a generic name for spirit. A generic name for a particular type of spirit must indicate either the colour, such as red wine or white wine, taste, processing technique and raw materials or a kind of feature that the public accepts, as a differentiation of this product from other types of alcoholic drink, such as beer, wine, etc. For instance, the spirit in question uses another spirit as the main material input plus more than ten Chinese herbs. Bamboo leaves only account for a very small portion.¹³

Secondly, ZYQ is a trademark. It was a traditional spirit in China, but nobody was making it based on the traditional technique any more. The manufacturer from Shanxi, based on the traditional technique, developed modern ZYQ in 1948. The spirit manufactured by Shanxi has been exported abroad since 1954 and was awarded a gold medal for its high quality three times. It has been very popular with consumers as a brand name in China. In addition, ZYQ was first registered in 1963 in Mao's times and, was re-registered in 1981. This means that the trademark was still valid when the new *Trademark Law* became effective in 1983. As we have already noted, "... Trademarks registered before this [1983] law entered into force shall continue to be valid" (*Trademark Law* 1983: Article 43). It should be added, though irrelevant to this case, that Article 43 in the 1983 *Trademark Law* is vague here, as it does not seem to take the matter further. In other words, would it validate a mark that had become invalid for genericism before then? This is a general point the author has indicated elsewhere that the IP law ought to be written more clearly.

Finally, it appeared that the case might have been efficiently dealt with if the court had not refused the case, and instead had co-operated with the administrative organs. This indicates that there is a lack of co-ordination in administrative and judicial organs in dealing with IP cases.

¹² The analysis includes both the discussion in the original case and the author's own debate.

¹³ There is a long history and extensive literature on this subject in Western countries. In the UK, cases include SHERRY, CHAMPAGNE, ADVOCAT and SCOTCH. They have all been publicly fought with debatable results. *TRIPS* also stipulates in Articles 22–24 provisions on geographical indications (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001).

Case II: “Ri Yue” Trademark¹⁴

Case and results One manufacturer in China has registered “Ri Yue” (literally sun and moon) as a trademark for electric meters. Then, it merged with another manufacturer to form an electric appliance manufacturing company. They decided to use “Ri Yue” for electric products, which were first displayed in a national exhibition. The contractual value of the products signed in this exhibition was over RMB one million yuan. Relevant administrators for industry and commerce from the same city, Chong Qing as the “Ri Yue” company, came to the exhibition and noticed the change of product range for the registered mark. They warned the manufacturer and reported the situation to the SAIC. As a result, this trademark was cancelled by the Trademark Office after careful examination.

Case analysis This case clearly proves the significance of collaboration between the top and bottom levels of administration concerned with IP management. China is such a vast country, it is impossible for the central IP administration to supervise specific activities in local areas. Therefore, local IP administration plays a vital role in supervision. If the IP administrator in Chong Qing had not reported the problem to the SAIC, the manufacturer would have continued to use the illegal trademark.

The question is if it would be better for the Trademark Office to allow the company to rectify the situation within a specified period. It seemed that there was no evidence of non-use, in which case cancellation would be in order. One might ask whether there was any consumer confusion as a result of the use by the new company. In practice, there appeared to be no evidence of consumer confusion. In addition, a change of address hardly warrants cancellation, but only rectification of the register.¹⁵

As for the manufacturer, the company made a serious mistake, which contravened the *Trademark Law*. Because of the merger, the company changed from being an electric meter manufacturer to an electric appliance manufacturer. Therefore, it should have applied for the modification of the registration in three areas. First, the registration name was different — the merged company was called an electric appliance manufacturer. Second, the address had changed — the newly merged company had an additional location. Third, there was a change of product range, caused by the change in

¹⁴ The case study was organised and translated based on the case reported in Wang (1996: 313–314).

¹⁵ See Footnote 1.

product mix from electric meters to electric appliances. The above three changes made the original trademark invalid, and the continued use of the same trademark was against the *Trademark Law* (Article 30). The law stipulates:

“**Article 30.** Where any person who uses a registered trademark has committed any of the following, the Trademark Office shall order him to rectify the situation within a specified period or even cancel the registered trademark:

- (1) where any word, device or their combination of a registered trademark is altered unilaterally (that is, without the required registration);
- (2) where the name, address or other registered matters concerning the registrant of a registered trademark are changed unilaterally (that is, without the required application); . . .”

In relation to the relevant companies again, it seems that there was not an implied assignment of all IP, including trademarks to the new company on a merger. It is well-accepted in many Western jurisdictions on a concept of implied transfer.¹⁶ In China, “where a registered trademark is assigned, both the assignor and assignee shall jointly file an application with the Trademark Office The assignment of a registered trademark shall be published after it has been approved” (Trademark Law: Article 25).

In addition, there is no indication of the consequences of the cancellation. So many questions remain unanswered according to Professor Vaver, Oxford IP Research Centre. For example, did not the product range of the new company include electric meters? Could the electric appliance manufacturing company object a third party and request relevant authorities to stop the third party to use the mark for electric meters? Would not consumers be confused into believing that electric meters and appliances were from the same manufacturer?

7.3. Problems of Enforcement

7.3.1. Problems

7.3.1.1. Judicial co-ordination and co-operation There exists a similar problem in judicial organs to the administrative organisations. Different tiers

¹⁶ See Footnote 1.

have independent judicial powers. It might be argued that independence makes different judicial organs judge cases more efficiently and effectively. However, without any co-ordination from the top, independence inevitably causes inconsistencies in the judgements reached. Thus, while some degree of independence is necessary, co-ordination is also essential. This is because many cases are handled across provincial borders, thus, harmonised judicial proceedings are crucial to effectively and efficiently resolve IP infringement.

7.3.1.2. Quality and quantity of judges and lawyers A critical lack of legal workers has presented a severe problem in implementing IPRs. As we mentioned earlier, the number of Chinese lawyers have increased significantly since 1980, but even so, they are a drop in the ocean compared with the almost one million lawyers in the US. In comparing the US with China, “Perhaps the most visible difference between the legal structures of the countries . . . is reflected by the current number of lawyers each country has” (O’Connor & Lowre 1996: 123). By 1994, there were 70,000 lawyers in China predicted to rise to 150,000 by the year 2000. In contrast, there were almost 900,000 lawyers in the US and the number was expected to reach one million by the start of the millennium (*op cit*). Another contrast is with the number of lawyers in England and Wales. The statistics show that, despite their difference in population with China, there were 195,700 lawyers in England and Wales by July 1999.¹⁷ The comparison here does not intend to suggest that more lawyers are unalloyedly good or China should emulate the UK and USA in relative numbers of lawyers. However, these contrasts appear to imply that individuals in the US and UK have easier access for litigation as a remedy than in China.

Apart from the question of quantity, the quality of Chinese judges and lawyers is even more in need of improvement. The emergence of such a high quantity of lawyers in such a short period of time implies that there is a great disparity in professional competence. Moreover, legal enforcement was only resumed in 1980, therefore, it is impossible to build up a large group of experienced lawyers and judges in such a short space of time. Thus, in order to “. . . protect the legitimate rights and interests of litigants, safeguard the correct enforcement of laws, and bring into full play the positive role of lawyers”¹⁸ in the Chinese legal system, it is crucial to increase the quality of lawyers and judges.

¹⁷ The number was obtained from the Law Society in England and Wales by telephone on May 31st 2000.

¹⁸ See Article 1 of the *Provisional Regulations of the PRC on Lawyers* (1982).

7.3.2. *Case Studies*

The purpose of the following case studies is to demonstrate that judicial enforcement has played an important role in China, but they also help to highlight the inadequacy of Chinese judicial enforcement.

*Case I: Aqua-Quench Case*¹⁹

Case and results In 1987, E. F. Houghton & Co., a US company, was granted trademark rights for “AQUA-QUENCH”. In 1991, a southern Chinese firm, the Shenzhen Hailian Chemical Company, advertised a quenching liquid (used to put out fires) with the same mark. The two parties did not reach any agreement after several rounds of negotiations. Thus, the American company sued the Chinese company for infringement.

Following litigation, the court decided that the defendant had infringed the plaintiff’s trademark in its advertising and other publications for the same product. The court ordered that the defendant should eliminate all AQUA-QUENCH labels from its products and promotional activities, and stop using the mark. In addition, the defendant was required to apologise for the trademark infringement in a newspaper, and the precise form of the apology was to be discussed with and approved by the plaintiff. Finally, the defendant should pay RMB 130,000 yuan to the plaintiff before the end of 1991 as compensation, plus the litigation fees. The case was very influential in China. In 1992, the Vice President of E. F. Houghton & Co., Far East Area and the General Manager in China, sent a flag to the Shenzhen Intermediate Court printed “The Chinese laws are fair, and the judges are efficient”.

Case analysis This case is straightforward because the defendant obviously violated the *Trademark Law*. It is trademark infringement “... to use a trademark that is identical with or similar to a registered trademark in respect of the same or similar goods without the authorisation of the proprietor of the registered trademark” (*Trademark Law*: Article 38). The case gave a very complete verdict, i.e. the defendant had to not only pay compensation and a litigation fee, but also apologise formally in public with the wording approved by the litigant. In this way, the litigant recovered some of its losses caused by the infringement of the mark. More importantly, a public apology would go some way towards eliminating any negative influence in the market, such as a

¹⁹ See *Fa Yuan Journal* (literally *Court Journal* 1992).

quality disparity or any misleading effect on consumers and other manufacturers.

*Case II: Protection of Digitalised Works*²⁰

Case and results At the beginning of 1999, a network company (we will refer to it as B) published six famous writers' works in China on the Internet without their consents. The six writers jointly sued B on its infringement of their copyrights. The court initially did not punish B, giving two reasons: first, there was no specific regulations about on-line protection; second, without appropriate regulations to work by, the court had no way to punish B. The result has caused a sensation in China, becoming one of the most important IP cases in Beijing.

In year 2000, finally, the court confirmed that the writers enjoyed copyright protection on their works digitalised on the Internet. Specifically, company B was ordered to stop publishing the six writers' works on line, to publish an apology, to compensate the six writers' losses, and to pay the court fee.

Case analysis

- (1) The final verdict of this case indicates that authors' works should be protected when they are digitalised and the right holders enjoy their copyrights on the dissemination of their works on line.
- (2) Company B has infringed copyrights by digitalising the six writers' works on line without their permission. It was an act of reproduction. " 'Reproduction' means the act of producing one or more copies of a work by printing, photocopying, copying, lithographing, making a sound recording or video recording, duplicating a photographic work, or by other means" (*Implementation Regulation: Article 5.1*). Although the reproduction on line is different from the more traditional forms mentioned above, it is still a form of copying, if technologically more sophisticated.
- (3) The case indicates that it is not easy to get things right at the first time especially when there is a new technology involved. That is why we have appeal courts and legislatures.²¹ There is no lack of examples on this issue in Western countries, such as piano rolls and computer programme

²⁰ The case was obtained from the discussion in a workshop with the Ministry of Science and Technology, China, organised by, and at, the Manchester School of Management, UMIST on March 24th 2000.

²¹ See Footnote 1.

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copyrights.²² “In the light of such decision by highly trained and experienced judges in Western countries, one might have thought that some praise was due to the Chinese court for getting it right eventually”.²³

- (4) The final result of this case also suggests that copyright be specified in the aspects of digitalised publishing and protection. Without proper protection, nobody is likely to have his or her works published on line. In addition, with appropriate copyright laws to work by, it would be easier for future tribunals to resolve similar cases.

Summary and Conclusions

A systematic IP framework has been established in China for over a decade, but it is inevitable to see the existence in this young system of problems, which have acted in varying degrees as barriers to safer and smoother inflows of IP. Problems remain in three major areas, the existing laws, organisational administration and protection, and judicial inadequacies. They indicate the necessity to improve the system and imply that corporate IP flows may have encountered and will encounter difficulties because of the existence of these macro-level problems.

²² “In the first decade of the 1900s, both the US Supreme Court and the English Court of Appeal held that piano rolls were not copies of the sheet music that they reproduced when played. The courts could not accept that a ‘copy’ included something in another medium from which the original was not immediately perceptible. An early case on computer program copyright before a US District Court in the mid-1970s resulted in a denial of copyright because the court could not see how the work could be classified as a literary work: after all, humans could not read it conventionally and it was not intended to inform or give pleasure. (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001).

²³ See Footnote 1.

Chapter 8

Corporate Intellectual Property Flows from the UK and USA into China: Problems

Introduction

The critical review on the current IP system in China in Chapter 7 has demonstrated that there still exist disparities in the new IP system. The problems can be more specifically reflected in the corporate operations of IP flows into China from foreign countries. This chapter aims to realise an important element of the general objectives of the empirical research, in other words, to explore the problems that MNEs have encountered with regard to their IP flows into China. It will:

- reveal the main results, such as the number of companies, the IP flows they have been involved with, the recipients and the numbers of contracts and their value;
- specifically examine the problems that companies have encountered, based upon a general analysis of the questionnaire responses and an in-depth investigation supported with case studies. Questionnaires appear in Appendix D.

8.1. General Findings

As previously mentioned, a total of 183 questionnaires were distributed. These included 63 FIEs from the UK and US in China, 50 UK and 63 US MNEs. They were mainly screened from the *Times 100*, *Fortune 500* and *Top 500 FIEs in China*. Seven companies, which are not on the above lists, were also chosen during the reading of the relevant literature. They are included in the survey

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because of their manufacturing and IP activities in China, such as Manchester United. These seven companies are all of British origin.

8.1.1. Questionnaire Responses

There are, in total, 51 usable responses (i.e. after deducting incomplete or invalid responses). While 99 companies responded (Table 16), the usable response is more limited (see details in Table 17). For example, of the 99 companies that replied, only 51 companies were involved in IP flows into China, 14 companies had never been involved in any form of IP activity in the country. This result is not surprising because, although a search using information from *Who Owns Whom?* and individual company websites

Table 16: Questionnaire responses.

	Number of Companies	Percentage
Response	99	54
Non-response	84	46
Total	183	100

Table 17: Composition of responses.

Response	Number of Companies	Percentage
Companies with IP Flows	51	52
Companies with no IP Flows	14	14
Rejection of Survey Participation	34	34
Total	99	100

suggested that all these companies had business in China, it does not mean that they had IP flows into China. The remaining 34 companies sent polite responses rejecting participation in the IP survey. As a result, only 51 responses are valid for research purposes, accounting for 52% of the total response and 28% of the total questionnaire distribution. Of the 51 responses, 23 companies are FIEs, 10 are US MNEs and 18 are UK MNEs.

A number of companies either politely rejected participation in the survey or failed to respond to the questionnaire. In total, 34 companies rejected the chance to participate and there are a total of 84 “silent companies”. Apart from the common problem of low response amongst social science surveys, there are some specific reasons that may have contributed to the low response rate in this study. Firstly, of the 34 companies rejecting survey participation, 20 indicated that they received a large number of survey questionnaires each week, and did not have either the time or the resources to respond. Some companies explained that they only responded to questionnaires where there was a “statutory requirement” to do so. Secondly, 14 companies did not want to reply for reasons of “confidentiality”. Although assurances were given about confidentiality in the covering letter and the questionnaire, they believed that their answers would result in commercially sensitive information being divulged. Thirdly, six companies refused to participate because of ongoing merger and acquisition activities. Their assets, including IP, were under valuation at the time, which made it difficult for them to participate. Finally, four questionnaires were returned because company addresses had changed, including two from the UK and two from China. The current research has not been able to trace these companies.

8.1.2. IP Inflows and its Recipients

8.1.2.1. IP flows by surveyed companies In terms of the IP flows of the companies surveyed, 86% had transferred know-how into China (see Figure 29). There are several reasons for this high response regarding the flows of know-how. Firstly, there is a big gap between recipients in China and the supplying companies in terms of the level of their technical knowledge, management techniques and trade secrets. Therefore, on the one hand, the supplying companies have the ability to provide this type of IP and, on the other hand, recipients have the desire to obtain and absorb such know-how.

Secondly, compared with other forms of IP, know-how is easier to transfer because relevant companies do not need to go through the various bureaucratic processes for the protection and transfer of the asset. As long as business

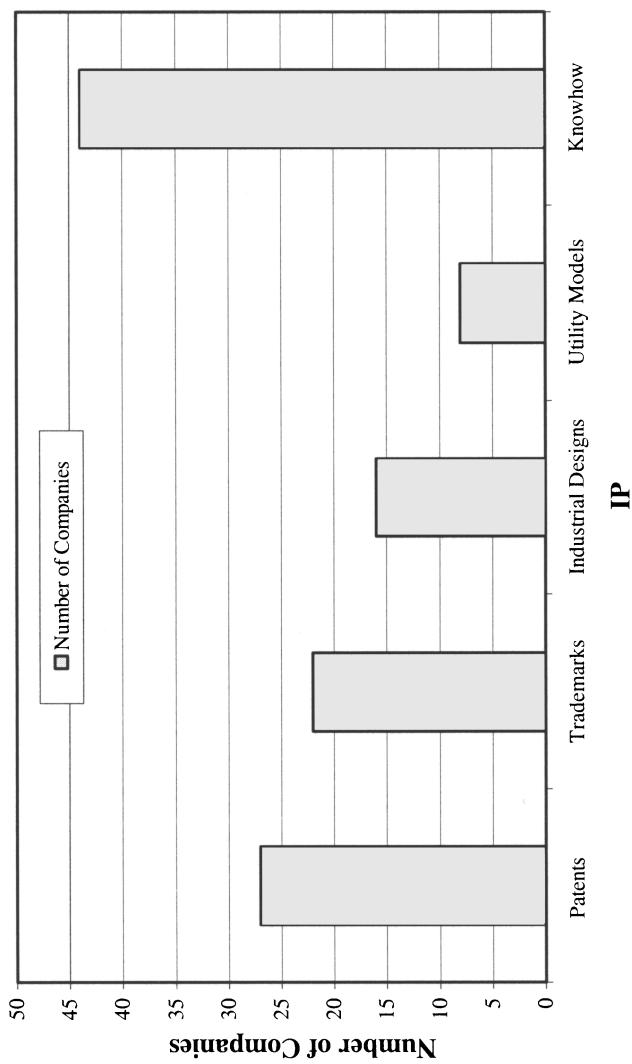


Figure 29: IP flows by surveyed companies.

Source: Survey on multinational companies by D. Yang (1999).

partners agree on the know-how contracts, know-how protection is initially assured (subject to the various partners complying with the stipulations of the contract). However, companies must apply to relevant government administrations for the protection of other IP, such as patents, trademarks, industrial designs and utility models.

Out of 51 companies, 53% reported having been involved with patent flows into China (Figure 29). This result is comparable to that reported in Bosworth & Yang (2000). A higher proportion of foreign companies are involved with patent flows than other forms of IP because of the higher levels of technologies from developed countries, such as the US and UK. Inflows of trademarks and industrial designs are reported by 43% and 31% respectively of the total companies surveyed.

Utility models are associated with the smallest inflow. There are two reasons for this. First, Britain has no utility model protection so far, and does not have any concept of utility model protection embedded in its IP laws. The survey results show that only eight American companies have transferred their utility models into China, which covers only 16% of 51 companies, which transferred IP into China.

Second, this matches the general situation in China. In terms of utility model applications nation-wide, foreign applications accounted for only 14% of the total (Bosworth & Yang 2000). Domestic application activity is more dynamic. The new open economy in China has given an incentive to produce and protect minor inventions and creations. This result is again consistent with the statistical analysis of Bosworth & Yang (2000).

8.1.2.2. Recipients of the IP inflows Out of 51 companies with IP flows in China, 67% had transferred their IP into Sino-Western joint ventures (see Figure 30). There are a number of reasons for the high level of transfer of IP to joint ventures. First, the Chinese government has encouraged the establishment of joint ventures; half of the FIEs are joint ventures. Consequently, it is not surprising to see that a fairly high proportion of IP flows is linked with joint ventures. Second, many MNEs are willing to transfer their technologies and techniques to their JV partners, as they believe, for the benefit of their co-operation, that Chinese partners will follow IP regulations and bilateral agreements in order to protect the mutual interests of their companies. Third, one of the regulations for partnership in China is that foreign partners can use technologies or techniques as part of their share of the investment. This has also motivated foreign companies to transfer their IP to their partners.

In comparison to the flows into IJVs, the IP flows to the WFOEs and Chinese companies are less significant. However, the flows to these two types of

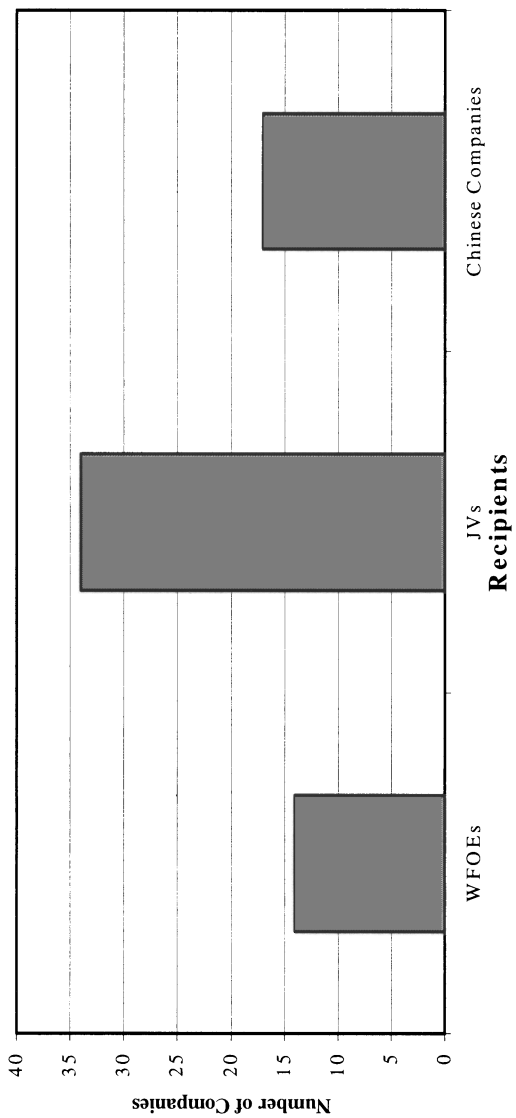


Figure 30: IP recipients in numbers.

companies are almost balanced with a coverage of 28% and 33% of the surveyed companies respectively.

8.1.3. IP Contracts and Flow Value

The survey response regarding IP contracts in numbers and value is very limited (see Table 18 and Table 19). Of the 51 responding companies, only 20 companies revealed how many contracts they have signed and only ten companies disclosed how much the IP was worth. The low response rate for these two questions was anticipated. One reason for this is confidentiality. Many companies would not like to divulge the information to outsiders because IP value is a very sensitive issue in IP management. The other reason is that it is difficult to estimate the value although it is easy to tell the number of contracts signed.

Many companies, especially joint ventures, sign co-operative agreements with Chinese partners, with the value of IP embedded in the contracts. This makes it difficult to calculate the IP value separately, and may explain why many respondents indicated “not available” or “not valued” (or even blank) with regard to this question. Even though the total IP value assigned by the ten companies exceeds over £5,562 million, the range in both contract numbers and value is very large. In terms of contracts, some companies only sign one IP contract, but some companies sign over 300. The same applies to IP value ranging from the lowest at £100,000 to the highest at over £3,000 million. This highlights the uneven distribution in IP flows of contracts and value to China from different MNEs.

Table 18: IP flows in contracts.

Number of Companies Responded	20
Number of Contracts Signed	612
Range of Contracts signed by Responded Companies	1-over 300

Table 19: IP flows in value.

Number of Companies Responded	10
IP Flows in Total Value	£5,562 million
Range of Value	£0.1–3,000 million

8.1.4. Respondents' Characteristics

At this point, it is useful to give some information about the general situation of the respondents. As we stated earlier, 51 companies involved in IP flows into China responded to the questionnaires, while the remainder either had no IP flows or were unwilling to participate in the survey. A summary of the responding companies can be seen from Table 20. Of the 51 companies with IP flows into China, 33 agreed to participate in further interviews, while the remaining 18 companies did not.¹

Table 21 reports the preferences for different interviews from responding companies. Some companies were only interested in participating in one type of interview, while other companies did not mind which form of interview was used. The survey result shows that 82% of the 33 companies preferred e-mail interviews (the favourite mechanism in this survey). Encouraged by this result,

Table 20: Participation of follow-up studies.

Answer	Number of Companies
Yes	33
No	18
Total	51

Table 21: Preferred forms of interviews.

Types of Interviews	Number of Companies	Percentage of Total 33
E-mails	27	82
Personal Interviews	6	18
Postal Questionnaire	11	33
Fax	7	22
Telephone	13	39

¹ The author has already traced any lack of enthusiasm about participation in this kind of survey to considerations of confidentiality, staff resources, etc.

Table 22: Preference for confidentiality.

Preference	Number of Companies	Percentage of Total 51
Reveal the name of the respondent	2	4
Reveal the name of the company	4	13
Do not reveal the name of the respondent	42	82
Do not reveal the name of the company	40	78
No response for this question	7	14

the author continued to e-mail companies for further interviews and questionnaire clarification at the later stages of the survey. Telephone interviews and mail interviews were the next highest preferences. Only seven companies chose fax-based interviews. The reason for this is clear, as fax transmission exposes information to a wider public. Thus, we have only used facsimile for questionnaire distribution. The personal interview was the least popular form of interview, accounting for 18% of the 33 companies.

Regarding confidentiality, the survey result shows that a majority of companies prefer to have their individual names and companies undisclosed (see Table 22). Only a few companies did not object. The survey represents the interests of the companies, therefore, in the analysis, the author respects the wishes of those individuals and companies who wish to remain anonymous.

The respondents in terms of nationalities were relatively evenly balanced, with American nationality dominating (see Table 23). The reasonably even distribution of responses helped to generate less biased results in this research. The respondents vary in terms of their management positions (see Table 24),

Table 23: Nationalities of the respondents.

Nationalities of the Respondents	Number of Companies	Percentage of Total 51
Chinese	18	35
British	14	28
American	19	37
Total	51	100

Table 24: Position/function of the respondents.

Position	CEO	Lawyer	IP/Technology Manager	Development Manager	Regional Manager	CEO Assistant
Number	4	5	17	13	8	4
Total	51					

but the majority of the respondents are IP or technology managers. Development managers (from MNEs) and managing directors (in China) ranked second and third respectively.

8.2. Problems

8.2.1. Results Generated from Questionnaires

The data from the questionnaire analysis showed that 35 out of 51 companies with IP flows into China have encountered various degrees of problems. To some extent, this accounts for 69% of the IP flow companies (see Table 25). The proportion comprises, 17 companies from the US and 18 from the UK, including their affiliated FIEs in China. The other 16 companies had not encountered problems in IP flows to their Chinese counterparts. While this result is compatible with the hypothesis that the majority of companies with IP inflows into China have encountered problems, a higher proportion than expected (31%) have not encountered problems.

Where problems were reported, they were in different areas (see Table 26). The specific problems will be elaborated in the in-depth analysis in the next

Table 25: Companies with and without problems in IP flows.

Yes	35 (US : UK = 17 : 18)	69%
No	16 (US : UK = 7 : 9)	31%
Total	51	100%

Table 26: Areas of problems companies have encountered.

Problems with	Number of Companies	Percentage	Respondents	
			US	UK
Partners within Subsidiaries	15	43	9	6
Other FIEs	3	9	2	1
Government Organisations	24	69	12	12
Chinese Companies	17	49	8	9

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section and, here, only brief results are revealed. Of the 35 companies, difficulties with government organisations stand out very significantly, accounting for 69% of the total (12 respondents from the US and 12 from the UK). Note that the total percentage is over 100%, because many companies have problems in more than one area.

Problems with Chinese companies and partners in the subsidiaries are very similar, with 17 and 15 companies responding, representing 49 and 43% of the total respectively. The Chinese partners in the subsidiaries refer to either Chinese partners within WFOEs or JVs. The result here indicates that the conflicts can be similar between foreign IP providers, and both Chinese companies and Chinese partners regardless of what types of enterprise or business.

The least problematic area is with FIEs. Only three companies, including two from the US and one from the UK indicated that they had experienced problems with other FIEs in China that were not their own subsidiaries. Meanwhile, they also pointed out that problems with other FIEs were different in nature to the other problems mentioned. Given their small numbers and special nature, we do not undertake further study of the problems between FIEs, and the next section focuses on the other three problematic areas mentioned above.

Regarding the extent of difficulties in IP flows into China, Figure 31 shows a very clear picture. The results indicating difficulties were anticipated. For example, the responses for know-how were very diverse. Most responding companies judged know-how flow as “somewhat difficult”, together with the companies who chose “moderately difficult”, these two groups of companies account for 57% of the total of 44 companies with know-how flows into China (see Figure 29). Another group of companies thought that know-how transfer was “very difficult” and “extremely difficult”. These represent over 36% of the total responding companies for know-how flows.

In theory, know-how can be protected indefinitely as long as the relevant parties do not leak information to outside parties. However, according to the UK and US managers interviewed, Chinese partners usually insist on the protection of trade secrets at a maximum 10-year term. Big companies in China, such as Sinopec and China National Petroleum Corporation, have demanded a ten-year term for know-how and trade secrets, arguing that Chinese “internal regulations” require them to do so.² This has discouraged potential know-how suppliers providing technologies or techniques, and

² Presumably the rationale for ten years lies in the fact that Chinese technology lags behind by about ten years.

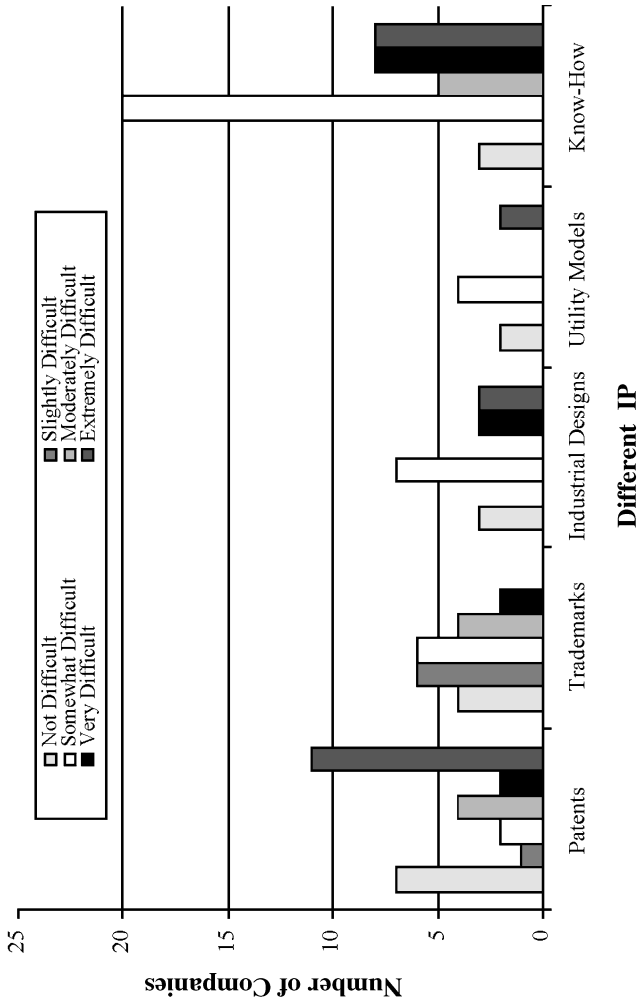


Figure 31: Extent of difficulties in terms of different IP flows.

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created a significant barrier, as most foreign companies would not be willing to have their core competence revealed after only ten-years of co-operation with China.

The result for the flows of industrial designs and utility models were, as anticipated lower than for patents, with most of the companies responding “somewhat difficult” (accounting for 44 and 50% of the responding companies respectively for these two flows). Some companies also chose “other difficulties”, but they tended to be very sporadic. The result from the trademark flows shows that most of the respondents rate the problems as lower than “moderately difficult”, with the four categories accounting for 91% of the total trademark inflow companies.

However, the results from patent flows tend to be polarised. At one extreme, 41% of the companies involved in patent flows believe that patent flows into China are “extremely difficult”. The six companies that gave this response were experiencing problems with government organisations, two with joint venture partners, and three with Chinese companies. It should be noted that some companies here encountered problems in more than one of the four areas. At the other extreme, however, 26% of companies report that patent flows have not posed difficulties.

8.2.2. In-depth Analysis

The previous section discussed the general results from the initial questionnaire response. Subsequent, in-depth studies were conducted after the responses were obtained from the 51 companies. Follow-up studies were carried out with the 33 companies that were willing to co-operate further. Out of these, 23 companies had encountered problems while the other ten had never encountered any serious problems with respect to their IP flows. A summary of the characteristics of the responding companies can be found in Table 27. For the companies without any problems, the follow-up simply asked for their experience of success and the management of their IP flows into China. As for companies with problems, the author tried to ask the interviewees to clarify their responses to the previous questionnaire. The participating companies sent their responses in different forms — mails, telephones, but mostly by emails. A number of interviews were also conducted for the purpose of in-depth studies.

The in-depth analysis serves two purposes. First, it enables an examination of the problems reported in the questionnaire survey, identifies the causes of the major problems in detail, and provides some possible solution for

Table 27: Summary of the respondents of follow-up studies.

Number of Further Survey Companies	33 (US : UK = 15 : 18)					
Companies with Problems	23 (US : UK = 11 : 12)					
Companies without Problems	10 (US : UK = 4 : 6)					
Nationalities of Respondents	Chinese	12	British	9	American	12
Position of Respondents	IP Manager	Regional Manager	Development Manager		Lawyer	CEO Assistant
	14	7	8	2	2	2
Areas of Problems with	Chinese Partners		Government		Chinese Companies	
	9		16		12	
Distribution of the UK and US companies, including their FIEs	UK	US	UK	US	UK	US
	6	3	9	7	5	7

them. Second, it attempts to synthesize the experiences of the companies with no problems, and to categorise the lessons learned from the companies with problems with respect to their IP flows into China.

The empirical study does not attempt to cover all of the problems that the companies have experienced, but concentrates on some relatively common experiences. The problems will be analysed using the previous categorisation, based on those arising with government organisations, Chinese partners within FIEs and Chinese companies. It should be noted that many interviewed companies experienced problems in two or three different areas. This explains why the number of problems exceeds the number of companies with such difficulties taking part in the follow-up studies (see Table 27).

8.2.2.1. Difficulties with government organisations The overall results of the questionnaire analysis demonstrate that 69% of the responding companies have encountered problems with different Chinese government organisations (see Table 25). The purpose of this section is to specify what typical problems the companies experienced. Three common types of problems were identified from the various interviews and in-depth studies as follows:

- (i) problems with IP applications and registration;
- (ii) inadequate administrative protection; and
- (iii) weak judicial enforcement.

These issues will be discussed separately and illustrated with representative case studies.

Inconsistencies in IP approval and registration

Case Study 1-1: Manchester United

The inconsistencies in IP approval and registration have been revealed by 11 of the 24 responding companies, which have encountered difficulties with Chinese government organisations. Difficulties here may vary case by case, as different companies are applying for different IP rights for different products. However, all the IP applications have to go through a similar bureaucratic procedure, and the MU case study can be used to illustrate some common problems that many companies have encountered. The other reason to use the MU case is that MU is one of the few companies which would not mind having company names revealed.

Before elaborating on the difficulties of MU's trademark registrations, it is worth mentioning three things. First, there are two trademarks that MU has been using in the MU products. They are both the symbols of the club and company. One is the MU badge, the other is the MU Football Club symbol



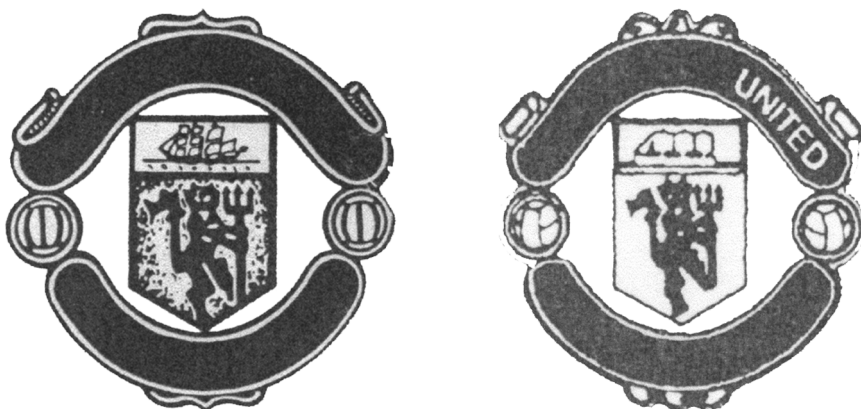
Photos 1–2: MU and MUFC badges.

Source: Obtained from and permitted by the MU Trademark Office.

(MUFC). The two badges are shown in Photos 1 and 2. The MU red devil symbolises one of the most successful football clubs in the world, and in the meantime, it signifies a brand name in business and a well-known trademark in the world. Second, according to the *Chinese Trademark Law* and its *Implementation Law*, different products using the same trademark should apply for trademark certificates separately, otherwise, use of the trademark is an infringement of the regulations. This implies that MU must register the same trademarks separately for manufacturing different products.

Finally, MU's economic interest in registration of trademark in China should be made clear here. The major purpose for MU to license its trademarks in China is to export its products to different Mega Stores belonging to MU in the world. Certainly, there are also supplies in the Chinese market, however, the demand is limited caused by the high costs of the goods. Therefore, anti-counterfeit activities discussed later in the chapter involve stopping both counterfeit locally and with respect to export trade.

One of the difficulties that MU encountered in China was the frustration caused by the inconsistency of the Chinese government, i.e. the Trademark Office under the SAIC of China in the trademark registrations. Since MU started its business in China in 1993, it has registered eight trademarks for different products. Two registrations are for the protection of the MU badge (i.e. two in different product areas), which are still pending. The other six registrations have the MUFC badge with two still pending and four approved. Two of the four approved trademarks were registered exactly the



Photos 3–4: Approved Trademarks by the Trademark Office in China.

Source: Obtained from and permitted by the MU Trademark Office.

same as the original badge (see Photo 2). However the other two were registered very differently.

In 1995, the Trademark Office approved the application of MU to register the MUFC badge for clothing and footwear goods (registration number 787396, class 25, valid from October 28, 1995 to October 27, 2005). The trademark turns out to be a completely different mark from the original application (see Photo 3). The name “Manchester United Football Club” was erased from the badge. The reason given by the Trademark Office was that MUFC should not be allocated to MU, as Manchester refers to a city, which should not be used as part of the football club name.

In January 1999, application for the same trademark, but different products — the MU branded alcoholic drinks were also registered wrongly with registration no. 1243372. In this instance, there is only “United” in the corner (see Photo 4). “Manchester” and “Football Club” of MUFC were eliminated from the mark. The reason given for changes to the original mark was that MU should not be specially used, because there are also Leeds United, Sheffield United, West Ham United, and Newcastle United.

Difficulties in administrative protection

Identification of the Problems in Administrative Protection

Out of the 24 companies having difficulties with Chinese government organisations, 14 companies indicated they had encountered various degrees of

difficulty because of inadequate IP administrative protection. The extent of these difficulties varied between companies. One company pointed out that, “. . . administrative control is sometimes incoherent and very limited”.

Summarising the questionnaire responses, we have identified four different inconsistencies related to administrative protection. Firstly, there is an inconsistency between administrative regulations and laws. There are over 23 ministerial government organisations, 24 provinces and four municipalities. All these organisations have power to issue regulations and rules. There are simply too many regulations and, as a consequence, it is almost inevitable that companies encounter confusing and paradoxical regulations from different governmental organisations. Moreover, there are no regulations to control the inconsistencies. Therefore, the complex network of different organisations unavoidably collides with their individual organisational or provincial needs.

Secondly, administrative control has been strongly influenced by local protectionism. As China is such a vast country, the different provinces are endowed with different resources and manpower. Therefore, politically, they are also authorised to stipulate their own regulations and policies based on their own needs. This decentralisation without any co-ordination from central government has indirectly encouraged local protectionism not only *vis-à-vis* other provinces but also to FIEs in China, especially when cross-province disputes occur. Thirdly, the administrative inconsistency is reflected in inconsistencies and conflicts in IP examinations and approvals. The MU case provides hard evidence. Finally, administrative inconsistency exists and causes conflicts between China and international organisations charged with IP. The LeCom case discussed below is a typical example.

Case Study 2-1: LeCom

Before discussing this case study, it is necessary to discuss administrative protection. In the literature section, we have demonstrated the complicated hierarchical layers that characterise the IP administration. Now, in this case study, a more specific focus is adopted with regard to these issues — namely, pharmaceutical products protected under international treaty. This case relates to products that are not eligible to be filed for protection under Chinese *Patent Law*, but where the pharmaceutical product is covered by international patent regulations. This is a form of interim protection for such compounds, which falls under the auspices of the State Drug Administration (SDA) without any links to SIPO. This type of protection is based on Sino-EU and Sino-US bilateral agreements (see Appendix E).

LeCom’s experience is straightforward (at the request of the respondent, we use LeCom to replace the genuine name of the company). The SDA rejected

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LeCom's request for administrative protection of its invention in the initial and review period. The rejection was based on the point that the application was originally a process patent, which was against the requirements set forth for administrative regulation. The first application for a patent was in 1975 — a process patent, which was therefore not eligible for pharmaceutical administrative protection in China.

The readers should be aware that three criteria have to be met in order to have administrative protection for a patent (Appendix E: Article 2).

“The Chinese government agrees to provide administrative protection to US pharmaceutical and agriculture chemical product inventions which:

- (1) were not subject to protection by exclusive rights prior to the amendment of current Chinese laws;
- (2) are subject to an exclusive right to prohibit others from making, using or selling it in the United States which was granted after January 1, 1986 and before January 1, 1993;
- (3) have not been marketed in China”.

The three criteria indicate that the subject of the application must be an invention with exclusive rights in the applicants' home country, was not eligible for protection under *Patent Law* in China prior to 1993 and was not available on the Chinese market before the application.

According to the SDA, there was no dispute that the application met the first and third criteria, but concern that it did not meet the second. After the SDA rejected the application for administrative protection, LeCom filed a case against the SDA in the Beijing Higher People's Court and, then, in the Supreme People's Court. The final verdict is still pending. While, above, we only describe the main features of the case, in the next chapter we will undertake an in-depth analysis of the case.

Difficulties in judicial enforcement

Inadequate Enforcement

The majority of the companies raised the issue of inadequate enforcement of IPRs in their responses to the questionnaires. Thus, it is important to provide some background that helps to understand judicial enforcement in China. Law has never been the highest authority in China, unlike the situation that prevails in the USA. Take the Lewinsky scandal for example, Clinton, as the head of state in the US, was impeached in court. This could never happen in China no matter what the president does because he is the highest power of the country,

and above the law. Now, turning from this example to think about IP enforcement, the position becomes much clearer. Historically, legal enforcement has been the subject of powerful political interference. Since the late 1970s, however, the legal function has gradually become more independent of political pressure. Nevertheless, politicians continue to have so much power that judicial enforcement does not apply to them in the same way as to the majority of the population.

An Example: “Guanxi” and Local Protectionism Influences Judicial Justice

The local protection and network system, i.e. “Guanxi”, have impacts on judicial enforcement. One JV company has given us a vivid example that they have experienced. As an infringer in Province A, the JV manufactured its patented products in Province A. A company in neighbouring province B provided high salaries and attracted many technical workers from the JV and established similar production facilities to manufacture similar products. The JV company filed a case at a Higher People’s Court in Province B against the infringer for its infringement. However, the infringer has strong “guanxi” networks with some of the judges and lawyers in the high court. In addition, the infringer is from the province, infringement behaviour could not be justified in the end. This confirms the main reason why the majority of the respondents prefer not to go to court to resolve problems over their IP, over and above the disincentives of cost, manpower and time. The interviewed companies further added that, while foreign companies experienced this type of problem, so did local Chinese companies.

Instead of taking legal proceedings immediately, the JV company should have approached the infringer in the first instance for a private settlement, such as commercial settlement of loss, licensing, and even a possibility of merger and acquisition. As the second choice, the company should have sought for administrative resolution because, when evidence is sufficient, administrative organisations could provide much quicker, cheaper, even more powerful ways of resolving infringement. Finally, the JV company should have litigated when other alternatives had exhausted as this would have released the company from less financial burden, and other worries.

8.2.2.2. Problems with partners and companies The interviewed companies encountered similar problems with both FIE partners and Chinese companies. Thus, we analyse them in the same group. According to the results of the questionnaire survey, 43% of the 35 companies encountered problems with their partners when dealing with IP flows, and 49% of them reported that

they had experienced problems with Chinese companies (see Table 26). Summarising the findings, we have identified three common problems in dealing with IP flows relating to Chinese partners and Chinese companies.

The problem of flexible contracts

Different Views of the Contractual Obligations

All the companies that reported problems with partners revealed that an important cause was the nature of the contractual agreement. Foreign interviewees criticised that breach of an IP contract is frequent amongst Chinese partners and, when a know-how contract is breached, it indicates a danger of know-how or secret leakage, thereby the commercial value might be undermined. Chinese interviewees complained that foreign partners were so rigid with contractual stipulations. They believe that partners should collaborate based on trust and friendship that has been established and loose contracts allow partners to solve specific problems on the spots flexibly.

There appears to be an important cultural difference in the preferred nature of contracts. “Loose contracts” here refer to those which are very general, without sufficient range of specific stipulations. This is contrary to the preferred Western approach, which generally believes that a contract should be as specific as possible to avoid any future conflicts and wrongdoings. Chinese thinking prefers a general contract, which can facilitate further negotiation in the future. Flexible contracts mean that the items in a contract can always be changed, based on the negotiation as and when the situation changes. A partner might well disobey the rules of a contract even before a new agreement is negotiated and signed. Such practices have been all too common amongst Chinese partners and companies, and a source of considerable frustration amongst foreign partners.

Case Study 3-1: Contract Battle between US Company A and Chinese Company C

The following case represents a typical example of contractual flexibility in China. The author interviewed three different parties about this case, including a Chinese company in Beijing, a representative of an American company and the lawyer for the Chinese company. All the names have been changed to respect the respondents’ confidentiality and preference for anonymity. For simplicity, we will call the Chinese company, C, the US company, A, and the law company, G. A and C signed a contract regarding the import of a product patented in the USA and manufactured by A. The contract involved a package of imports from the US in three separate deliveries. According to the contract,

C should have paid for each delivery in advance. However, it stopped paying when the second delivery was delayed and, therefore, A did not dispatch the third delivery. As a result, based on a mandatory consultation and arbitration clause to resolve disputes, the case in the end was filed in the Beijing Arbitration Centre. Later, we will show how this case was resolved in favour of C.

Non-payment of IP-related services Non-payment for IP-related services is also a serious problem in cross-cultural partnership, which will be discussed below.

General Problems

The non-payment for IP services was reported by 16 of the responding companies. It should be noted that most IP related services provided by foreign partners have not been very clearly stipulated in the contracts. However, the conflict is that foreign partners believe that separate payments should be in place while the Chinese partners believe that once there is a partnership, everything should be shared — a view that is contrary to Western philosophy.

Case 3-2: Contract Battle between A and C: “Aren’t the IP Services Included?”

Although IP payment was stipulated in the contract, the wording was sufficiently vague that it led to misunderstanding between the two companies. In particular, it was not clear to C that it was required to pay separately if A’s engineers provided technical services. In fact, C’s representatives visited the US during the preparation for the second delivery and IP services were offered from A in the US. C thought that this IP support was part of the package, although there was a rough stipulation about additional payment in the contract. Thus, when A asked for the payment for the provision of IP services, C was surprised and the manager shouted on the phone to the A representative: “Aren’t the IP services included?” This was partly the reason why A delayed the second delivery and stopped the third delivery. The legal judgement stated that A had lost the case because it had failed to deliver the products on time. The verdict was a surprise to A, C and its lawyer G. In the end, the case was closed with C an unconvincing winner.

Difficult to protect know-how As we know from the literature section, know-how is protected under the *Anti-unfair Competition Law* in China. It implies that know-how can be kept forever as long as the secrets are not leaked.

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However, some interview companies revealed that Chinese partners demand a maximum ten-year secrecy term, emphasising that this ten-year limit is required under Chinese law. However, there is no such stipulation in any of the relevant laws in China, and such demands inevitably impede the transfer of foreign know-how to China.

One company indicated that, "... there is a general feeling that Chinese partners do not respect confidentiality as we do". Another company argued that, "... it can be difficult or nearly impossible to provide for trade secret confidentiality of indefinite duration, which is often required commercially". Consequently, the difficulty in protecting trade secrets and know-how in a partnership hinders or prevents the transfer of advanced technologies and techniques.

Other common problems In addition to these three common problems, most responding companies pointed to other mutual problems in dealing with IP flows with partners. They include misappropriation of funds, difficulties in negotiating IP contracts, miscommunications in the process of negotiation and co-operation, etc. As these problems resemble the ones in ordinary partnership operations, we will not discuss them in detail, but just mention them here in passing.

8.2.2.3. Counterfeiting and other infringement from Chinese companies

China: The centre of counterfeiting In addition to the common problems mentioned above, another severe but unsurprising problem associated with Chinese companies is counterfeiting and unauthorised use of protected IP. Responses from 18 companies indicated that they had been the victims of counterfeiting and unauthorised use of their technology, techniques and trademarks, accounting for more than 51% of the 35 companies in the survey with IP problems. This validates the belief that China is "... the centre of counterfeiting" (Robins 1994). This research result is also compatible with statistics on counterfeit products from the US customs. In the first half of financial year 1999, for example, the US Customs Services seized 1,928 counterfeit products worth over \$73 million. China represented the single biggest offender, as 38% of the seizure was of Chinese origin. Taiwan and Hong Kong came second and third as counterfeiters at 11 and 9% respectively (Anon 1999). Counterfeiting as a concept can be clearly explained through the following case studies.

Case Study 1-2: China versus Manchester United

The MU case provides a fairly complete picture of counterfeiting in China. In particular, the MU experience highlights the complexity of counterfeiting. Three types of counterfeiting took place in this case — slavish copying, licensing speculation and forgery.

Slavish Copying

Slavish copying, or slavish imitation, or literal copying, here refers to producing the same products by imitating the original designs, colours and badges from the MU products. It is not different from ordinary counterfeiting. According to the estimation by Mr. O’Donovan, the Trademark Manager of MU, six factories in China have been involved in producing counterfeit MU products. The counterfeit products are sold in China because of the popularity of the football club.

During the interviews, Mr. O’Donovan pointed out the differences between the real products and fake ones — an example is shown in Photos 5 and 6. Take the MU T-shirts for example, the fake one usually uses very different material, the sewing is very rough with threads on the surface of the T-shirt and the zip is made of metal. Moreover, the marks and badges on the T-shirts show different qualities in sewing, colours and materials. In contrast, the real one is



Photo 5: Genuine T-shirt.

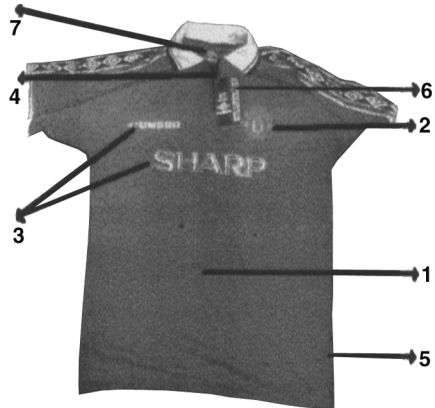


Photo 6: Fake T-shirt.

Note: The numbers show the differences of the fake products from the genuine ones.

Source: Obtained from and permitted by the MU Trademark Office.

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of much higher quality in terms of sewing and material. The zip is made of rubber with a degree of elasticity. By touching the two products, it is possible to feel that the fake one is very rough and the real one is very smooth on the surface.

Licensing Speculation

Currently, MU has six big contracts with different Chinese manufacturers, including SOEs and COEs. MU authorises the Chinese licensees to manufacture a certain volume of output, say T-shirts, again, with the MU badge on them. A problem arises, however, if MU authorised the Chinese licensee to produce, say 3000 T-shirts and, instead, the licensee produced 6,000 or even more. While the 3,000 are for export to the UK, the remaining 3,000 can be distributed on the Chinese market at a price much lower than the one that MU stipulated. The licensees are sure that they can sell the shirts in China because MU has attracted quite a few Chinese fans. Compared to slavish copying, licensing speculation is much more “sophisticated” — a kind of “counterfeiting” that involves the “real product”. In this case, consumers effectively receive a genuine product at a lower price, and the main victim is the licensor, MU.

The above two types of counterfeiters not only dominate the Chinese market by providing counterfeit products to MU fans at lower prices, but also export the products to other countries, especially in South East Asia, and occasionally to the UK. It should be noted, however, that cheating manufacturers are not just in China, but are common everywhere. This has caused considerable concern and loss to MU, which argues that infringement of these types must be stopped, as it results in, “. . . an estimated loss of £3 million a year from China, Thailand, and other developing countries”.³

Forgery

This type of counterfeit changes the style of the original item by “creating” its own fashion in terms of design, colour or material and other details while retaining the brand. This kind of forgery can be found amongst the MU products, such as phone cards, magazines, souvenirs, and clothing. One example exemplifies this type of counterfeit. MU issues a monthly magazine called *Manchester United: the Official Magazine of the World’s Biggest Football Club*. Photograph 7 shows the version of this magazine issued in

³ Interview data.

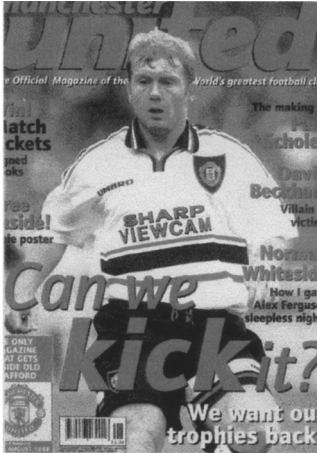


Photo 7: Official MU magazine.

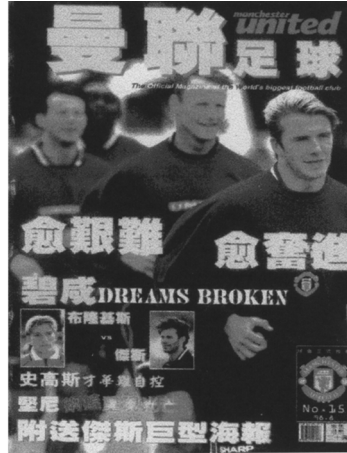


Photo 8: Forged version from Hong Kong.

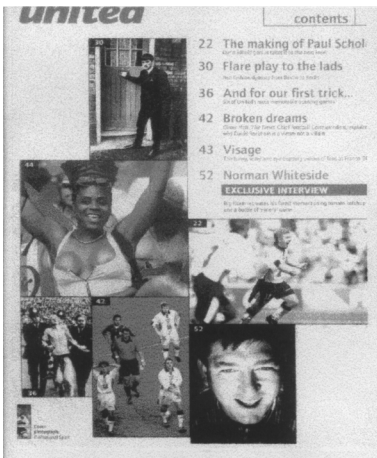


Photo 9: Content of the genuine magazine.



Photo 10: Content of the fake magazine.

Source: Obtained from and permitted by the MU Trademark Office.

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August 1998. When other countries and regions are authorised to distribute this magazine in the same or different languages, the country must follow the exactly same edition of the magazine without adding to the content. Surprisingly, the same version of the magazine issued in August 1998 in Hong Kong had a completely different cover (Photo 8). Ironically, at the right bottom of the cover, it says in Chinese this magazine was “. . . officially authorised to publish by MU”, and the MU badge appears directly below these words. The contents of the forged magazine are also thoroughly changed (Photo 9 and Photo 10). In comparison to the real version, the fake magazine is like an ordinary football magazine but with the MU badge to attract readers. This is a fairly typical example of forgery that also occurs in other products, such as club phone cards and souvenirs.

Infringement

Infringement is not a New Topic, but This one is Special

Like counterfeiting, infringement in China is not new — most research relating to IPP has emphasised the extent and seriousness of infringement. However, the present research is revisiting this topic for two purposes. First, the questionnaire survey has indicated the differing extent of infringement by some private Chinese companies. The solutions for these problems lie in the negotiations and consultation amongst related parties. Second, one of the survey respondents provides a case study of the problem of infringement in China that is somewhat different and, thereby, contributes some new knowledge to existing studies of infringement.

Case 2-2: LeCom

While the application for administrative protection by LeCom was still pending, two Chinese companies started producing LeCom's compound. In legal terms, the copying of LeCom's patent by the two Chinese domestic companies does not form infringement. This is because it is distinctive between this action and ordinary infringement: on the one hand, it was an “infringement” while the application for administrative protection was pending; on the other, the original patent owner had been rejected administrative protection in China. While, on the surface, the copying can be explained by the rejection of the patent, there remain unanswered questions: Firstly, how did the two companies obtain the method of producing the

compound; secondly, why could not a process be subject to administrative protection.⁴

There appear to be two possible ways in which the two Chinese manufacturers obtained the technology. Firstly, as with many pharmaceuticals, the production methods for a particular compound or product may be well known either from the scientific literature or from published patents in various countries. The products are not difficult to make by someone schooled in the art and science of pharmaceutical production. Secondly, a government organisation itself could have leaked the information. During the application stage, related information is very tightly controlled and outsiders, such as the two Chinese companies, cannot gain access. In this case, there is a possibility that relevant staff from the individual administrative agencies either unintentionally, or deliberately, leaked necessary knowledge. There is no evidence as to whether the leakage of secret information from government departments is the result of benign ignorance or corruption.

The possibility of government leakage is not a new problem — Liu raised this issue five years ago (1996). However, the LeCom case put another question mark on the organisational protection of IP, which may jeopardise IPP at the highest level. Therefore, government organisations and the law should regulate top-level IP protection more stringently.

China has instituted a large number of revisions to the regulations relating to administrative protection. These changes allow Chinese companies to gain registration and approval for a compound earlier than a foreign company, which had already applied for administrative protection. In this case, the production and marketing of the compound by Chinese companies is not deemed to be in violation of the exclusive rights, conferred under the terms of the Sino-EU and Sino-USA agreements. In effect, the Chinese government has shielded its agencies, and Chinese companies are able to use the registration to protect themselves.

The issue of leakages is also related to the publication of pending IP applications. In the US patent system, “. . . inventions for which a patent is pending are not disclosed until the patent is actually granted” (Hufker & Alpert 1994: 47). In other words, the details of the inventions are only published upon grant, which, to some extent, helps to protect the inventors’ intellectual assets.

⁴ According to the MOU between China and the USA, the Chinese government provides administrative protection to US pharmaceutical and agricultural product inventions under three conditions. One of them is that product inventions “are subject to an exclusive right to prohibit others from making, using or selling it in the United States which was granted after January 1 1986 and before January 1 1993.” (See Appendix E).

In China, the EU and Japan, inventions are usually published before patents are granted. However, in order to encourage continuous invention and the protection of intellectual assets, it might be a good idea for China to follow the US system in this respect.

Summary and Conclusions

The purpose of this chapter has been to empirically identify the problems associated with IP flows into China. The analysis involved two main stages. The first step was to conduct a general analysis based on the questionnaire responses. In total, 51 companies answered the questionnaires, of which 35 had experienced varying degrees of problems, while 16 reported having no negative experiences in their IP flows into China. In relation to different forms of IP, the extent of difficulties for patents and know-how flows is very varied. In other words, some companies believed that patent flows were “extremely difficult” while some companies stated that it was “not difficult” to transfer patents. Know-how was considered from being “somewhat difficult” to “extremely difficult”. IP flows of other forms (i.e. trademarks, industrial designs and utility models), were associated with an intermediate level of difficulty.

IP flows in terms of the number of contracts and their value also vary considerably from only one to over 300 contracts and from £100,000 to 3,000 million. The majority of respondents were IPMs, technology managers, development managers and regional managers from the US, UK and China. On average, 80% of the respondents did not want to reveal their individual status and company names. Therefore, much of the case study material presented here comes from anonymous sources.

The second stage of the analysis consists of in-depth studies of the 33 companies that were willing to participate in the follow-up studies to the postal questionnaire. The subsequent contact was mainly *via* emails and personal interviews. As a result, the research identifies seven common problems. Difficulties with Chinese government organisations have been encountered by 69% of the companies with respect to three common grounds:

- (i) inconsistency in their treatment of IP applications and registrations;
- (ii) weak administrative protection;
- (iii) insufficient and ineffective judicial enforcement.

These findings indicate that additional strengthening of legal enforcement from the top layers of government is essential to exert the necessary enforcement of IPP nation-wide.

In addition, almost half of the responding companies reveal that they had experienced some problems with partners from FIEs and CDCs. These problems were identified as arising from:

- (i) ill-defined and unreliable contracts;
- (ii) non-payment for “additional” IP services; and
- (iii) difficulties with regard to know-how transfer and the long-term protection of know-how.

Moreover, over 50% of the companies had been the victim of extensive counterfeiting and infringement, including slavish copying, licensing speculation and/or forgery.

While infringement is a well-established and well-documented topic, the present study indicates that measures should be put in place to protect intellectual assets from “administrative leakage” in China during the period when IP is pending. The above findings have been supported by case study material obtained from the current empirical survey work.

Chapter 9

Corporate Intellectual Property Flows from the UK and USA into China: Causes

Introduction

The purpose of this chapter is to establish the causes of a number of the problems isolated in the previous chapter. The study follows the same structure as in Chapter 8:

- In the first part, the research will carry out a general analysis based upon the responses to the structured questions in the postal questionnaire;
- The second part of the chapter specifies the analysis based on unstructured questions in the questionnaire and the follow-up studies with cases. Questionnaires appear in Appendix D.

9.1. General Findings from Structured Questions

Questions 9 and 10 of the questionnaire ask what the reasons were for the problems experienced by the company (see Appendix D). Question 9 is highly structured, based upon a number of possible reasons that were generated from the literature survey. Question 10 poses an unstructured question for respondents to point out the reasons for the IP problems based on their own knowledge and experience. In this way, the questionnaire was designed to capture the widest range and details about the possible reasons. The responses from Question 10 will be analysed in the in-depth analysis in the next part. Here we present the results from structured questionnaire responses.

It is important to explain a couple of points at the onset of this chapter before we do the general analysis. First, the results derived from Question 9 were

based on the 35 companies reporting problems with their IP flows. Second, the structured reasons require some clarification:

- (i) “Culture, Religion or Ethics” refers to the cultural differences between Sino- foreign partners;
- (ii) “Required Royalties” denotes the fee that IP recipients should pay to suppliers;
- (iii) “Financial Restraints from Recipients” means that recipients desire IP, but they are put off for financial reasons;¹
- (iv) “Management Differences” refers to the differences between Sino-foreign partners regarding the management of relevant companies (such as WFOEs and JVs);
- (v) “Recipient Capability” indicates whether the recipients have the necessary knowledge and organisational capability to absorb the foreign IP;
- (vi) “Technology Control” is intended to establish whether it is clear to partners who owns and/or controls the IP;
- (vii) “Adequate Chinese Legislation” investigates if the prevailing IP legislation is adequate enough to ensure IPP;
- (viii) Finally, “Insufficient Judicial Enforcement” refers to whether judicial control is sufficient to safeguard IPP.

The different causes based on the structured question interviews to the companies are analysed in Figure 32. From the culture perspective, the majority of the companies responded “somewhat important” and “moderately important” indicating that culture is a fairly important issue when a company transfers its IP to China. As for “required royalties”, the number of companies that do not regard it as important is the same as those that regard it as “somewhat important”. It should be added, however, that the general findings of the present study make it very clear that companies should pay significant attention to the issue of royalties when they design the associated contracts and undertake IP flows.

The results with respect to financial constraints amongst Chinese recipients are the most evenly spread of all. Although most companies consider it “slightly important”, eight companies emphasise that this is “very important”. They have argued that suppliers can successfully transfer their IP into a

¹ As the reader will be aware, companies in China are mostly SOEs and COEs with profit problems. Even Chinese partners from FIEs are generally drawn from these two sources.

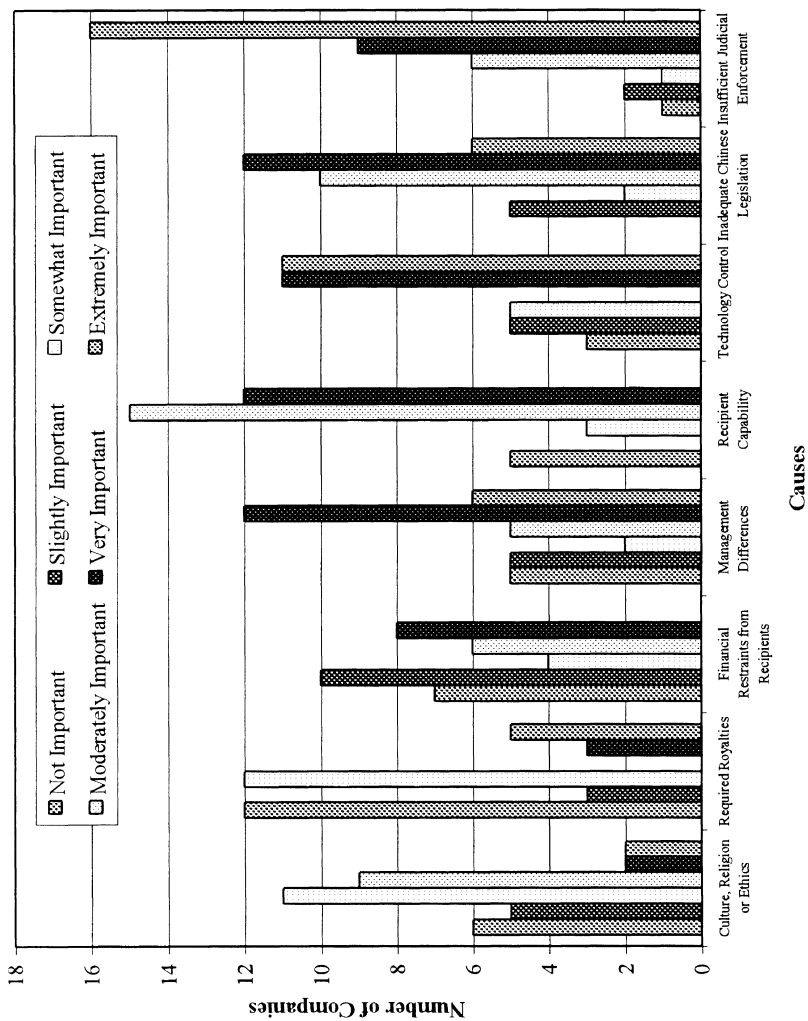


Figure 32: Causes of problems from the structured question.

company if there is no financial constraint. Management differences have been stressed constantly as a “very important” element when problems occur. This indicates that different companies have different and potentially incompatible management styles, which can generate a range of different problems.

Figure 32 suggests that the recipients’ capability to understand and absorb new technologies played a crucial role in ensuring the success of IP flows (i.e. most respondents regard this factor as “moderately” or “very” important). The result is even more marked in the case of “technology control”, with most of the companies regarding it as either “very” or “extremely” important. Most companies chose “moderately” or “very” important with regard to the inadequacy of Chinese IP legislation. This implies that companies should exercise stringent control over their ownership of IP, which prevents their rights being infringed. The other respondents are relatively evenly spread across the scale, but much smaller numbers of companies are involved. The results imply that companies have a wide range of opinions about the adequacy of the Chinese IP system.

Finally, insufficient judicial enforcement appears to be of significant concern; 16 out of 35 companies (46%) reported it as “extremely important” to reinforce IPP. The majority of the companies chose above “moderately important”, which accounts for 89% of the responses. These results clearly demonstrate that the judicial enforcement of IP laws has been a source of problems, even though there is some evidence that an adequate legal framework has been established.

The above analysis substantiates that different levels of importance are attached to the various reasons for problems. However, it is clear that enforcement of IP laws and technology control constitute two of the most important dimensions for the successful management of IP flows. The enforcement of IP laws is largely in the hands of Chinese government organisations. The research concludes that IP enforcement from the top is an important starting point for the stringent enforcement of IP laws. For laws to have the effects that they were designed to produce, there must be adequate enforcement; without enforcement, the legal framework is just an empty shell. Technology control may involve many parties, such as suppliers, recipients and even outsiders. No matter how many people are involved, technology control is the key to preventing both partners and outsiders from infringing IPRs. In addition to these two main factors, however, Chinese IP laws, recipients’ capabilities and management differences are also important causes of problems in IP flows. Culture factors, financial constraints and required royalties have also been raised by a number of companies as sources of difficulties, although they are generally less significant than those reported above.

9.2. In-depth Analysis

The analysis of the responses to the questionnaire in Section 9.1 summarises the importance and influence of various reasons for problems with respect to IP flows. However, an analysis of the unstructured question from the questionnaire (Question 10) and the follow-up studies, supported by a number of cases, offer the opportunity to isolate more detailed and specific reasons of the problems. While different problems have their individual causes, the aim of the present research is to identify the common factors across different companies during the process of IP flows into China.

9.2.1. Causes of Difficulties with the Chinese Government

9.2.1.1. Registration and application, and Case 1-3: Manchester United Difficulties in registration and application may be partly the result of negligence or ignorance amongst the relevant government organisations. However, in mitigation, the administrative and legal frameworks for IP remain relatively new, and the difficulties of learning are currently exacerbated by complexities and inconsistencies between different departments and organisations.

In the MU case, on the one hand, the Trademark Office's view that "Manchester United" in full is not a trademark actually had its basis. There are examples in the UK and USA. Lively discussions have been going on in these two countries on whether marks on sport clothes functioned as marks or were mere ornaments. More recently, the decision on the Arsenal trademark in the UK has been referred to the European Court of Justice after the claims in passing off by Arsenal Football Club failed in the High Court of Justice in London.² On the other hand, however, "the Trademark Office should at worst have required MU to disclaim descriptive matter, rather than physically eliminating the registration from the original mark".³

The inconsistency arose from the lack of co-ordination between the different departments of the Trademark Office. Thus, when the MUFC trademark applications for different products were sent to the Trademark Office, they were directed into different departments according to the classification of the products. As a result, one department approved the original trademark, and another did not. The inconsistency may have been further accentuated by lack

² I am grateful to Professor D. Vaver from the Oxford IP Research Centre for the information.

³ *Ibid.*

of knowledge — the fact that “well-known trademarks” may not be well known in China because not everyone is a football fan. The MU mark is not like Coca-Cola or Pepsi in this respect, as almost everybody drinks coke. This is not just in China, but a problem everywhere. While staff at the Trademark Office may have a broad knowledge of trademark law and administrative responsibilities, they might not have the same awareness about MU (not everybody in China knows MU well). Again, this could be a source of inconsistency between the different departments of the Trademark Office.

9.2.1.2. Reasoning and debate on Chinese Administrative Protection

Regulations: Too many and too “flexible”

The administrative regulations are open to widely different interpretations. As the survey of the literature demonstrated, second-tier government organisations and provincial governments can all stipulate regulations based on their own needs. This not only leads to too many regulations, but also to inconsistencies and differences in interpretation.

Many of the respondents to the survey indicated that they were confused which regulations to follow and, indeed, for any given regulation, how it should be followed. The evidence suggested that there were simply too many laws and regulations. Even Chinese businessmen find the situation bewildering, let alone their foreign partners. Furthermore, the companies interviewed during the course of the present research have found that government organisations have been very “flexible” in the way in which they interpret the administrative regulations. This was also illustrated by the MU case study. As the MU trademark department indicated, “Government organisations can easily find an excuse to reject an agreement of partnership even if the agreement abides by relevant regulations.”

It is also necessary to mention here that bureaucracy is everywhere, not only in China. For example, the US and UK business people complain that there is also too much red tape in their countries. They also find dealing with bureaucracy in India and other Asian countries very frustrating. Should China be different from them?⁴

Case Study 2-3: LeCom

To quote from the discussion in the problem analysis section, “Chinese administrative protection is too ambiguous and confusing, and leaves too much

⁴ Ibid.

space for interpretation”. The LeCom case study provides a useful illustration of the problems of administrative protection. LeCom could not obtain administrative protection from the Chinese government based on the Sino-US bilateral agreement. The reasons for this can be traced to the ambiguous Chinese administrative regulations and the associated leeway that this gives with regard to their interpretation. The reason for rejection by the SDA was that the invention was not a product invention, but a process one. Here, we could argue that MOU did not mention anything about the ineligibility of process patents, but only a “pharmaceutical product invention”. Therefore, while the statement by the SDA that “. . . the pharmaceutical must already hold an exclusive product patent”, is not directly in conflict with MOU.

The patent office from country G, which approved the original patent, held a very different view. The Vice President of the Patent Office, Mr. W. stated to the Chinese court in his affidavit on behalf of LeCom,

“However, from the claim wording, it is clear that the invention was not a process invention but rather was a product invention. Thus, the claims as formulated provide protection for a pharmaceutical product as, according to the . . . Patent Act, the protection conferred by a patent for a method of preparation of a substance extends to the product obtained by that method. Agreement between the European Community and China does not require that the applicant for administrative protection possesses a product patent. However, it does set out fairly stringent requirements with respect to the exclusive rights conveyed by the patent. Because the invention protected by the . . . patent is a product invention, very broad claims were allowed by the . . . Patent Office [from G country]. Indeed, in terms of the exclusive rights conveyed, the claims of the patent provide the same protection as would have been provided by a product patent. Thus, the . . . patent provides exclusive rights which would ‘prohibit others from making, using or selling the pharmaceutical [in G country] . . . and therefore fully complies with the requirements set out in test (ii) in the Agreement between the European Community and the People’s Republic of China”.

The Sino-EU agreement resembles the treaty between China and the US on the subject of administrative protection (see Appendices E and F). In order to make sure that the treaty contains some tacit agreement that a product patent could be submitted to meet administrative protection, LeCom contacted the principle

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negotiator of the treaty, Ms. A in Washington. Ms. A. stated in the affidavit to the people's court that there was no such understanding and the requirements for administrative protection are only those as specifically stated in the regulation.

LeCom believed that the main source of the problem was the intransigence of the courts to consider the case fairly, and on its merits. According to LeCom, the Beijing People's Court was unwilling to acknowledge the facts of the case and, instead, took a stand that appeared to be contrary to the truth. Under the law, the burden of proof lies with the SDA to demonstrate that LeCom does not have the ability to exclude others from using, making and selling the patented product in G country. However, the SDA had submitted no evidence to the court to substantiate this. This is because LeCom had substantial success in ensuring the exclusivity of the product in country G. This success is reflected in both the massive market for the product and the absence of illegal action or challenges to the exclusivity of the product in country G. However, the Beijing Higher People's Court judged the evidence submitted by LeCom as inadmissible on the grounds that, they "... had no bearing on the facts of our application of law in this case" (Interview data).

The Chinese government has a right to examine and determine foreign applications in accordance with its own laws and regulations. It is therefore not surprising to see that the Chinese authorities gave little weight or credence to this far from disinterested view, which is little more than an argument.⁵

It is clear from the affidavit that the product was not new and only the process was at best. The Sino-US MOU broadly and straightforwardly indicates that only product patents are covered. This can be seen from Article 1(a) regarding future patent grants and article 2 referring specifically to product inventions. According to Professor Vaver, this looks like a typical case that "a drug company seeks to expand a monopoly over an old drug by using process patents".

In essence, the real reason goes far beyond this case — there are political and cultural implications involved, as the director of a law firm in China indicated. The Chinese judicial system operates to support the political system, in contrast to most developed countries, where the law takes precedence over the political system. In China, politics and politicians have the greatest power, which was deeply ingrained in the Chinese culture for thousands of years. Judicial enforcement is only for civilians, and not for high-level organisations. The need to "save face", which was described in the background section, was an important cultural influence on this case. If the SDA, a government

⁵ Ibid.

organisation directly supervised by the State Council, had lost the appeal to a foreign company in China, it would have implied that the Chinese government (rather than the SDA) had lost “face” in the eyes of the world. This further proves an old saying in China, “Officials shield officials”, literally officials protect each other whatever the principles of the case are.

9.2.1.3. Unsophisticated enforcement The previous literature has suggested the presently unsophisticated laws and the system of enforcement. The current research further confirms this argument, especially with regard to enforcement. One of the British managers, Mr. H., interviewed during the course of the research, stressed the influence of this issue on their business in China. He says, “China has a relatively unsophisticated legal framework with a great deal of development to go through, particularly in enforcement of laws”. Laws in China are not specific enough to safeguard foreign investors’ business. They are so broad that they can be interpreted in different ways. As a result, it is difficult that enforcement operates on the side of justice.

In the literature survey, we concluded that Chinese culture influences foreign investors not to seek litigation as a solution to their problems, on the grounds of time, human power and assets. This research adds a further important reason. Many companies would not be willing to take the legal route to finding a solution because they believe legal resolution is neither sufficiently fair nor effective. The LeCom case is a typical example. Because of insufficient enforcement, according to a spokesman for LeCom, Chinese business people “. . . bring other factors into play that are not of priority in Western business processes”. This is because they believe that their partners would, on most occasions, not take legal action for infringement. The result indicates a low confidence level from corporate enterprises in China with regard to the effectiveness of IP enforcement.

9.2.2. Causes of Problems with Different Companies

9.2.2.1. Polarity on negotiations and contracts

Different points of views

Breaches of contract and non-payments for services are fuelled by the existence of two extreme points of view on negotiations and contracts in China,

- Western companies believe that contracts should be as specific and tightly defined as possible (i.e. as “complete” as possible) in order to avoid future problems and eliminate the possible influence of personalities from such

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deals. Thus, a great deal of effort is expended in negotiations and drafting of contracts and, once signed, the relevant parties are expected to abide by the contract stipulations. Any act or acts that do not conform to the contract are deemed to be a breach of contract.

- The Chinese view on contracts tends to lie at the opposite extreme, and posits that flexibility from all partners should be the “rule”. In this case, it is customary that an IP contract should be simple initially. Future negotiations would modify the contract on a continual basis, “. . . with the benefit accruing to the party most skilled in the arts of commercial, political, and power manoeuvres and negotiations” (Interview data).

A contract should only be valid when the conditions and environment in which it was negotiated remain the same. If one party believes that some items have changed since the contract was signed, no matter if the issues have been dealt with in the original contract, this party not only might claim the need to change the contract, but also act accordingly prior to the signature of another contract. Therefore, it is not surprising to hear and see non-payment for IP services because Chinese business people believe that this is perfectly legitimate, as conditions have changed. This was reported as being a very common problem amongst the responding companies.

Case 3-3: The Contract Debate between Chinese Company C and US Company A

Although the contract debate case went through arbitration, and the reasons were discussed above, some issues remain. As we previously described, the case between A, an American company, and C, a Chinese company, was closed after the arbitration centre found against A. Superficially, A is the one to blame for the unfinished business. However, both sides share some degree of responsibility and, in fact, C should bear a greater part of the burden of blame. The verdict was the subject of a discussion between the author, managing director and product manager from C, and their lawyer. In reality, based on a true interpretation of the contract, if C did not pay and prior payment was a pre-condition of a third delivery, A should not be deemed in breach of the contract by the refusal of the third delivery. The company did not perform the contract; instead, the contract was justified in refusing.⁶

The problem first began when A unintentionally delayed delivery. Normally, this could be solved by compensation or payment deduction. Then, however,

⁶ Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001.

after the second delivery, the Chinese delegation from C visited A in the US for related products and technical support. Although the contract vaguely mentioned that relevant technical support would be charged separately, there were no specific details about how the support would be delivered or paid for. As a result, A provided technical support, but C mistakenly considered that the services had been already included within its payments under the contract. From this perspective, of course, C was at fault for not paying for the technical support. Nonetheless, both sides should have been responsible for not signing a very clear and separate contract to clarify the IP related items.

The debate then entered into a third phase, during which the relationship between the Sino-US partners deteriorated and became confrontational. C refused to pay the third instalment, let alone the IP services, whilst A stopped making the third delivery caused by non-payment. At this stage, both parties breached the contract, tried consultation, but ended up in the arbitration centre, with A blaming C for non-payment of the third instalment. Paradoxically, the arbitrator did not judge on all the elements of the case, and its ruling was based only on the issue of the failure of the second delivery on time.

9.2.2.2. Public versus private ownership Sino-Western partners have a different sense of ownership, which consequently influences the way in which they conceive IP. The mentality of public ownership had been deep-rooted in China for almost 30 years prior to the introduction of the “open door” policy in 1979. From 1949, the socialist regime had preached that everything belonged to the state and that there was no place for individualism in a socialist society. Therefore, even inventions made by individuals belonged to the state and, as such, everybody could share the resulting benefits. This quite distinct cultural approach was described in detail in the background section. After 20 years of being a more “open” society, however, privately owned enterprises and companies are booming, although, in comparison with SOEs, their size is still generally very limited. Certainly under the stimulus of the new economic environment, SOEs and COEs have been induced to undertake reforms in order to transform their obsolete manufacturing and management regimes.

However, the notion of public ownership is too ingrained for these policies to have an immediate effect. The reality is that most JV partners are established with a mix of public ownership on the Chinese side, such as SOEs and COEs, and private ownership on the foreign side. Under such circumstances, problems are inevitable. Indeed, IP itself is a private right, which is usually licensed from the foreign to the Chinese partner. This licence is as either part of a specified package in the partnership agreement, or a separate contract. However, the mentality of the partners is different, the Chinese counterpart is still affected by

the notion of public ownership, in other words, that partners should share everything. In the meantime, foreign counterpart emphasises the conformity with a contractual agreement. This has been a source of some commercial “misbehaviour”, such as breach of contract and the leaking of know-how to third parties.

9.2.2.3. Counterfeiting and other infringement China has been called by the USA as the “centre of counterfeiting” since it opened its doors to welcome foreign capital and technology. Counterfeiting and other infringements are even more frequent in the case of IP, which represents the best and latest of products and services. The following sections summarise six major reasons for counterfeiting.

Popularity: Case 1-4: Manchester United

The more popular the foreign product or technology in China, the more likely it is to be copied by other companies if protection is not stringent. Take the MU case for example, football is not only a sport, but also involves the production and marketing of a wide range of memorabilia and related artefacts. After MU won the “treble” in 2000, its popularity soared globally. It is not surprising, therefore, to see MU-related business activities booming, because the ardent supporters and die-hard fans want to own club-related goods to feel a sense of identity with MU.

“Small Men” are Exploiting: Case 1-5: Manchester United

Even though purchasing power is low, the demand for products with brand names remains high in an increasingly consumer-oriented society. This is why there is massive counterfeiting of famous brands in China, such as Pierre Cardin, Levis, Crocodile, etc. Turning once again to the MU experience, the majority of the MU fans in China do not have a lot of money. The annual income per person in China is under £2000. Thus, the “small men”, as Mr. O’Donovan, the trademark manager of MU calls the counterfeiters, have found opportunities to exploit MU’s potential market by manufacturing fake products, and this has led to the breaching of licensing contracts and other IP infringement.

Distance Exerts Little Control on Management: Case 1-6: Manchester United

Distance has created a big problem between foreign companies and China. There are two perspectives of distance: firstly, with regard to the size of

China; secondly, with reference to the distance between foreign countries and China. These two dimensions of distance underpin the difficulty of exercising control of counterfeiting in China. For example, when a counterfeiting activity is prevented in one area, another infringement activity occurs in some other part of the country. "Distance" has contributed to more serious problems when there is no involvement of foreign management and operations in China, especially for licensing, and subcontracting. MU has facilitated its production in China by signing licensing contracts with local manufacturers. Nobody from MU has been involved in the management of this business from within China. The trademark agency from Hong Kong is responsible for checking if the factories have collaborated with MU. When problems occur, the agency in Hong Kong will deal with the problems. However, this tactic does not prevent or deter counterfeiting from happening, but only attempts to stop the existing counterfeiting problems. In addition, the size of China further creates barriers for close surveillance.

Passive Chinese Government: Case 1-7: Manchester United

The problem of distance has magnified the incidence and extent of counterfeiting and other infringements in China, but the Chinese government has a part to be blamed. "The law in China is very local", stated Mr. O'Donovan. Although China promulgated the *Trademark Law*, its *Implementation Law* and other related regulations, driven by the "Open Door" policy, the laws are more oriented towards national than foreigners' interests.

Moreover, the Chinese government is passive in dealing with the issue of counterfeiting. They will take action if the aggrieved party, such as MU, finds evidence about infringement. However, the penalties are relatively small and administrative in nature, such as warnings, public apologies and various fines and compensation. Consequently, it is not in most companies' interests to bring the infringers to court. As Mr. O'Donovan says, "The Chinese care about 'face'. It is a very severe punishment for infringers to have to expose themselves in public".

This passivity implies that Chinese IP laws should be improved in order to be more oriented towards their international partners, in order to secure the benefits of future economic development and technological progress. The Chinese government has been co-operative only where victims can themselves find and provide sufficient evidence to prove behaviour constituting an infringement. Only at this point do the Chinese government organisations take administrative action to discourage the offending behaviour. However, if the owner of the IP rights avoids taking any action, it is inevitable that infringement will continue unabated.

The apparent laxness of Chinese officialdom can be compared with the position in the UK. For example, local trading standard officers make routine inspections and can prosecute trademark and copyright counterfeiting in the UK. Certainly IP enforcement still depends heavily on tip-offs and co-operation from IP right holders, who have to provide sufficient evidence and even legal manpower.⁷

Contracts were not Specific enough on Punishment of Infringement: Case 1-8: MU

The research has previously mentioned the different views about the nature of contracts, and it is not surprising that the problems of counterfeiting and other infringement often result indirectly from contracts. The contracts cannot guide and safeguard IP flows because they are not specific enough and do not detail the necessary items for IP transfer and protection. Taking MU as a case once again — in the contracts that MU signed with different Chinese manufacturers, there was no specific stipulation as to what action MU should take if licensees exceeded contracted production. Contracts should be an important tool to make partners abide by the rules. In MU's case, if the contract had detailed punishment for an infringement, licensees would perhaps not have breached the contracts, as they might have considered the consequences of losing an important partner.

Inadequacy of Penalties for Counterfeit and Infringement

The research shows that inadequate penalties apparently lead to ever increasing and destructive counterfeiting. The relevant IP agencies, such as SAIC for trademarks and SIPO for patents, are certainly important agencies for law enforcement. While fines, confiscation, compensation, revocation of business licenses and criminal charges can be used by the authorities to combat infringement, it is clear that the existing penalties are too lenient to prevent counterfeiting and other infringements. The fines, which are normally between one and three times the illegal income,⁸ are too small to punish the counterfeiters. Confiscation only stop an existing infringement, there is no preventive function. In addition, the concept of "illegal income" leaves too much latitude for interpretation — as it is often too difficult to find evidence that the counterfeit products have been sold, technically there is no illegal income.

⁷ Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001.

⁸ See Article 21, *Anti-Unfair Competition Law*, 1993.

Moreover, there is little explanation in the IP laws as to what actions should result in a criminal charge. The counterfeit products are often returned to the IP owners and their licensed manufacturers. As a result, counterfeiters are not punished in a way that could prevent them from infringing again. If, after a while, they play the same game again, IP owners and their licensees have to seek redress by taking the same administrative route, or legal proceedings, which are often costly and unpredictable.

Case 1-9: MU Raided Mischievous Counterfeiters

MU agents raided a number of illegal manufacturers in China. In one case, the agent raided a factory producing MU sports bags, and compared the trademark certificate with the actual production. As expected, many counterfeit bags were found. These products were confiscated and the factory was ordered to cease production. In the same raid, the agent also found illegal production of T-shirts on the site and wanted to confiscate them. The cheeky counterfeiters asked the agent to present the trademark certificate for the T-shirts, which was different from the one for sports bags. Unfortunately, the agent had not brought this with him and told the factory that he would come back with it the next day. The agent immediately ordered the certificate to be faxed from Hong Kong. However, when the agent went back, the counterfeiters insisted that they had never manufactured T-shirts using the MUFC mark. The agent was at a loss what to do because there was now no physical evidence; the T-shirts had already been destroyed or removed by the counterfeiters. This further illustrates the problems of finding evidence of counterfeiting in China. The results give some indication of the difficulties faced in stopping the activities of counterfeiting.

It is worth noting that the difficulties of anti-counterfeiting have been encountered everywhere in the world. In the UK, for example, Anton Piller seizure orders became common only from 1974, and since then, they have become subject to stringent safeguards to prevent abuse by right holders as well as alleged counterfeiters.⁹

9.2.2.4. Non-partner involvement Another notable feature of Sino-Western partnerships is the generally high level of involvement of non-partner organisations. One kind of “non-partner” involves a relevant Chinese organisation. As discussed above, most Chinese partners are SOEs and COEs, which are to a greater or lesser extent affiliated with relevant Chinese

⁹ See Footnote 7.

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government organisations. Although such affiliations are becoming weaker with the more open economy, company reliance on the government for leadership and directions is still common.

During a negotiation, the Chinese negotiators do not reach a final decision on issues under discussion. They have to report back to their superiors after reporting to the head of the Chinese company. Upon approval from the relevant higher authority, a contract can be signed with a foreign partner, after which, it has to be resubmitted to relevant government departments again for formal approval, depending on the size of the partnership. It is the Chinese government that draws up a model contract, not the different Sino-Western partners (as can be seen from MOFTEC's model contract). Thus, it is not possible to negotiate a contract entirely based on the partners' requirements alone.

However, this is not the end of the story. As a matter of routine, Chinese partners have to report to relevant government departments and organisations about all aspects of their collaboration with foreign partners. Because of the involvement of government bodies, contract negotiations can be protracted, which can affect the efficiency and effectiveness of the enterprises concerned.

The research shows that the other form of non-partner involvement in FIEs concerns Chinese lawyers. Chinese lawyers play a substantial role in the negotiation and drafting of contractual agreements. Western lawyers are also involved in the negotiation and drafting of international trade agreements. Western firms, especially large organisations have their own in-house lawyers and even law departments. For example, Arthur Anderson Consulting has its own legal consulting services in the company. These in-house lawyers are very active in such transactions either up front or behind the scenes.¹⁰ The difference is very clear here that Chinese lawyers are usually not part of the company involved in contracts and negotiations. This is less common in Western countries and often strange to foreign partners because the use of outside lawyers implies unnecessary costs. The considerable involvement of Chinese lawyers from outside only adds to the complexity of collaboration between Sino-foreign partners, according to the interviews.

Summary and Conclusions

This chapter has attempted to investigate the sources of a number of the problems highlighted in the previous chapter. Here the analysis is based on two questions from the questionnaire and case studies.

¹⁰ See Footnote 7.

The general findings are that inadequate government enforcement of IP and the extent of technology control by companies are the most important sources of problems. Moreover, IP legislation, recipients' capabilities, and management differences also play important roles in exacerbating problems. Additionally, culture, financial constraints and required royalties also contribute, but are somewhat less influential.

The in-depth analyses identify three important reasons for the difficulties with Chinese government bodies. They are:

- (a) negligence and ignorance from government organisations in the IP application and registration processes;
- (b) the existence of too many unpredictable regulations for administrative protection; and
- (c) inadequate enforcement.

In addition, the in-depth analyses identify a number of crucial causes of conflict in IP partnerships. In particular, the Western view of private ownership, specific and strict negotiation, abiding by contracts and general principles of corporate supremacy are in stark contrast to the Chinese concept of public ownership, general and loose negotiations, flexible contracts for future change, reliance on government instruction and supervision, and involvement of non partners. In addition, counterfeiting, as a thorny issue in China is the result of popularity, speculative desire, lack of operational control, passive government attitudes, inadequacy of contractual punishments, and insufficient penalties for infringement. Government enforcement and corporate control of IP lie at the heart of all the problems that severely impede the smooth flows of IP into China.

Chapter 10

Corporate Intellectual Property Flows from the UK and USA into China: Possible Solutions

Introduction

This chapter attempts to provide possible solutions to the problems that have been identified. Solutions are to be found by reference to the past experiences and future plans of the surveyed companies. The research also reveals that problems are not static and, as old problems are solved, and new ones emerge.

10.1. General Results from Questionnaire Surveys

There is no universal panacea that would solve problems arising from IP as they are usually very diverse, and need to be solved individually on a case-by-case basis. However, a number of strategies emerge from the questionnaire responses. Further insights can be found by analysing the experiences of companies that have not solved their IP problems. Furthermore, the companies that report no problems also have experiences that may contain lessons relevant to other firms.

10.1.1. General Strategies Responding Companies Have Used

The results of the questionnaire are compatible with the hypothesis at the end of the literature review, which was that consultation and mediation were effective and litigation was not (see Figure 33). The responses show that, without any hesitation, 35 companies (100% of the total responses) chose consultation as their primary strategy to resolve problems with the Chinese

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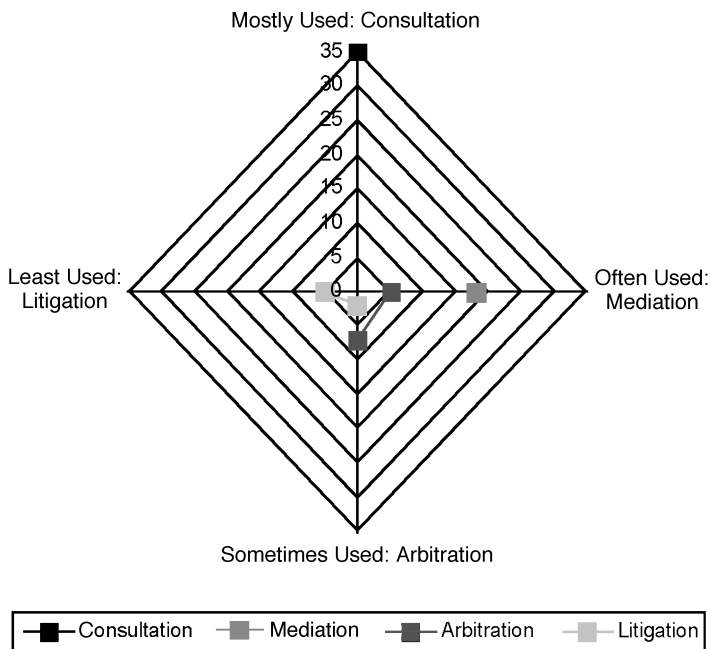


Figure 33: Strategies used by companies to resolve problems.

government and their Chinese business partners. It can be concluded, therefore, that consultation is the predominant strategy by which Western companies attempt to resolve problems. The reasons why companies prefer to use this strategy arise from the Chinese culture and the need for future co-operation. This will be detailed in the in-depth analysis below.

Mediation is the second commonest strategy adopted by companies. Of the 35 companies, 18 companies responded that they had used this strategy, accounting for a little over than 50% of the responding companies reporting problems. Although this number is less than the one for consultation, it still indicates that companies often seek an administrative mediation solution when problems arise. The result also shows that, consistent with being the second preference for companies, it is not used as frequently as consultation is to solve problems. The reason lies in the fact that the involvement of a third party (or parties) in the resolution process can only make things more complicated when the third parties are government organisations, although a trusted third party as a mediator must be agreed and acceptable to both parties. Moreover, there may

be important issues of confidentiality during the process of resolution, which may make the involvement of third parties inappropriate.

Arbitration was used by twelve of the companies and litigation by seven. Therefore, arbitration appeared in the category of “often” and “sometimes” used, while litigation was reported as “sometimes” and “least” used (see Figure 33). Five out of the total of twelve companies indicate a preference for arbitration as their second choice for the resolution of problems, but the rest of the respondents indicate that they tried mediation first before seeking to use the arbitration route.

The least used method is litigation, with only seven companies using it as the final route. The litigation was targeted at Chinese companies where there had been infringement, and the government where there had been problems with respect to applications and approval for IP protection. Partnership companies have not filed any litigation with respect to their partners, which shows that these companies would like to take other routes so as not to jeopardise future collaboration. Of the seven litigants, five companies are American and two are British. While sample numbers are small, this is consistent with the broadly accepted belief that American companies are more willing to undertake litigation for problem resolution.

One of the important findings of this research relating to resolution strategies is that the majority of the interviewed companies would choose arbitration or litigation as the last resort.¹ This result is consistent with previous research and, therefore, not surprising.² However, the research reinforces our understanding about the reasons why IP suppliers from foreign countries prefer not to litigate. In particular, the legal route is more expensive and costly in time, manpower, and resources.

The present survey, however, reveals another reason that forms a more important factor that dissuades companies from litigation, notably, the inadequacy of judicial enforcement in China. As litigation and arbitration are strongly influenced by political factors and personal networks, the interviewed companies perceive them to be unreliable strategies in China. On the contrary, consultation and commercial settlement are viewed as the most efficient

¹ Most companies, not just those doing business with China, would prefer to seek consultation and/or mediation to impose litigation to reach a mutually acceptable result. This is common to virtually all commercial disputes, either national or transnational (Discussion with Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001).

² Many researchers conducted useful empirical research on this topic in the UK from the 1970s to 1980s. Building disputes are often the most fractious of all (*op cit*).

Table 28: Companies with and without remaining problems at the time of surveys.

	Number of Companies	Percentage of Total 35
Companies with Remaining Problems	19	55
Companies without Remaining Problems	16	45

methods to solve problems, indeed, most surveyed companies perceived them to be “the only viable approaches”.

10.1.2. Problems will still remain The questionnaire result reveals that 55% of the 35 surveyed companies still had unresolved problems at the time of the survey (see Table 28). There are a number of reasons for this. First, this may simply be a “statistical artefact” caused by the fact we have uncovered a problem at an early stage. Second, many problems have to be resolved in an evolutionary manner, as Chinese partners and bodies become increasingly knowledgeable with regard to IP. Third, a number of the conflicts had not reached the stage that legal action was considered necessary. For example, communication and negotiation were being used to solve management differences in the first instance. Only if they did not succeed would litigation be considered.

10.2. In-depth Analysis of the Solutions of Problems

The following analysis endeavours to provide broad recommendations and general ideas with regard to solving the problems identified in Chapter VIII. The discussion not only considers the ideas and actions from the perspective of the interviewed companies, but also the current researcher’s recommendations for future implementation. The author is confident that a number of the problems can be resolved smoothly, while others will become easier to solve with the passage of time.

10.2.1. Some Views Regarding Difficulties with Government Organisations

10.2.1.1. Difficulties regarding approval on IP applications and registrations

Re-applications Re-application³ is the only solution in the case of difficulties with regard to the approval of IP applications, and this can be very costly. A re-application should be more persuasive and convincing to the relevant Chinese government authorities with knowledgeable description about applied IP. As the officials in charge of IP applications can be ignorant about specific applications. So far, this has been the most viable way to resolve inconsistencies in approvals.

Case 1-10: MU re-registration of the MU mark The MU problem is a case in point. The inconsistency in the trademark approvals by the same government organisation can only be resolved by re-registration. MU has decided to reapply for registration for the two trademarks that have been changed by the Trademark Office. The Trademark Manager of MU indicated that:

“If we still cannot have our application properly approved, we will appeal in court, which is very expensive. But, if the result is still unsatisfactory, we will have no choice, but to withdraw the related business from China. We do not want some small men in China to swallow us”.

The action that MU has proposed is correct. Re-registration may well result in a better outcome for MU, particularly if the company clearly explains the reasons for re-application. In addition, during the re-registration process, MU’s agent or regional attorney should approach the trademark agent or the Trademark Office and TRAB for assistance. This is because problems can more easily be explained and clarified face-to-face. Moreover, MU should find a way to prove to the Trademark Office that the MU and MUFC badges are well-known world trademarks.

However, “counterfeiting and overruns are a fact of life wherever MU decides to locate its business”.⁴ For example, MU has encountered similar problems in Thailand, Malaysia, India and Turkey. Nevertheless, all of these

³ Re-applications here refer to the process of re-applying or re-registering IP rights by IP holders to relevant IP offices if their first applications or registrations were not granted or were granted in an unsatisfactory form.

⁴ Comments by Professor D. Vaver from the Oxford IP Research Centre at the Manchester School of Management, UMIST on May 17th 2001.

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countries have one common attraction to MU as a manufacturing base — low production costs.

Tactics and Case 1-11: Manchester United Re-application is the right strategy to solve the problems with regard to the decisions of the relevant approval organs for IP. The research shows that the adoption of appropriate tactics is important in the re-application process for companies with earlier approval difficulties. On re-application, the companies should demonstrate very convincing reasons proving the validity of their application to the relevant government authorities. We can again use the MU example. The two badges for which MU applied for trademark protection are well-known globally. Specifically, the author believes that the following reasons should be presented for trademark re-registration to TRAB.

Presentation of the inconsistency MU should substantiate the inconsistencies regarding the decisions taken by the Trademark Office in approving the MU's trademark by comparing the certificates of the trademark registrations. By demonstrating this contradiction, the need for re-registration becomes apparent.

Trade names and marks are inseparable As we know from early studies, the trademark “Manchester United Football Club” was differently registered by the officials at the Trademark Office with only the badge or “United” (see Photos 1–4 in Chapter 8 to see the differences). The first two photographs are the original badges of MU. Photos 3 and 4 show the approved registrations of the two marks, which had been significantly altered by the Trademark Office and are completely different from the original marks. The MUFC is a name, in which the two words “Manchester United” are inseparable, and should not be separated from the badges. Otherwise, the trademarks lose their original meaning.

Well-known trademarks “Manchester United” and “Manchester United Football Club” are two well-known trademarks. This is because the two names originated from the club, and nobody else has ever used them. Moreover, the club has more than 100 years of history and, hence, the two badges representing the company have been registered in the UK for a long time. In addition, in more recent years, MU has registered its trademarks in 40 countries.

10.2.1.2. Administrative protection and judicial enforcement There is little companies can do to aid solutions of administrative protection and judicial

enforcement problems — changes will be determined by the Chinese government in its efforts to improve the current system internally.⁵ However, the international IP environment will definitely influence the changes. As we analysed earlier, there have been many inconsistencies in IP administration arising from the differing applications of laws and regulations by government organisations (both at the same level and across different layers), and from the different handling of foreign countries and international organisations by Chinese government agencies. Both domestic and foreign companies in China have fallen victim to such inconsistencies. As a spokesman of one company interviewed during the research stated, “The solution to all of this will come about naturally when other nations put pressure on China and, then, they have to take action to protect IP, otherwise customers will dry up”.

It is worthwhile speculating on the potential improvements to administrative protection and judicial enforcement that may result from internal change, and foreign and international pressure.

Central control and co-ordination — the keys to policy consistency and organisational congruity Central control and co-ordination of IP should include both supervision of policy execution and the prevention of inconsistency and incongruity. Too many regulations from different ministerial government organisations and provincial governments only make things more complicated and circumvent central government policy and laws. As a result, inconsistency is inevitable and companies are confused.

This situation is the same for judicial agencies at all levels. For instance, the four layers of the judiciary have an independent right to make judgements on IP infringement. However, there is no control or co-ordination about the judgement across the various tiers.⁶ The solution here is for central government to exert stringent control over the promulgation of rules and regulations of the second-tier government. Therefore, a separate agency should be established to supervise second-tier policy, with a remit to make it as consistent as possible with the first-tier. Moreover, there should be specific regulations that censure organisations that promulgate rules or regulations incompatible with central government policy.

⁵ FIEs are usually members of the Chinese FIE associations, which organise conferences on a regular basis to listen to the opinions of different FIEs, including their complaints (Source: Interview to X. Zhao, Director of Foreign Direct Investment, Beijing Foreign Trade and Economic Commission, China, October 1998).

⁶ A similar problem also existed and exists across the states in the USA.

This co-ordination and control should also include the prevention of local protectionism. Second-tier governments are more ministry- or province-oriented, i.e. they tend to only consider their provincial or ministerial roles when they make policy. As a result, the interest of other provinces or even the whole nation may be jeopardised. Therefore, it is crucial for the central government to co-ordinate the specific policy and actions of these lower-tier organs in order to develop a healthy environment for IP flows. China is a vast country with 1,300 million people, and it is natural therefore to have spatial differences in both resource allocation and product demand. However, provincial government should not establish its own level and form of protectionism at the cost of jeopardising other provinces' interests and the ability of foreign companies to compete. It is understandable that nationally China wants to protect some of its home-grown industries for the national benefit, for example, the telecommunication industry. However, provincial protectionism should be curtailed, otherwise foreign investment and technology flows into China will be discouraged.

Protection from the top, not from the grassroots

Enforcement should begin from the top IP and its associated enforcement should start from the top. Here “the top” refers to first and second-tier levels of Chinese government organisations and their officials. The tradition of legalism, which we discussed earlier, has gradually formed a kind of “belief system” that rules and regulations are for civilians, not for government officials. This mentality has to change if China wants to stimulate economic development *via* increased foreign IP flows. There is a saying amongst the public in China, “The policy is there; the policy is right. But how many people from the top obey the policy?”. This reflects the ordinary civilians' perception about the Chinese government and its policy.

An example: A county official and laws The following example was obtained from an interview with a Chinese law firm and portrays the attitude of some Chinese government officials from the lower levels. A head of a county level⁷ government was interviewed about his understanding of the law. The head replied without any hesitation, “Law is me, I am the law”.⁸ This answer showed

⁷ County level in China is different from the one in Britain. It is lower than city level (i.e. it corresponds more closely with Wards). Cities in China are usually composed of towns and counties.

⁸ The statement is reminiscent of Louis XIV's “L'état c'est moi”. (I am grateful for this insight from Professor Vaver from Oxford IP Research Centre).

that this person thought himself above the law. Unsurprisingly, he was soon removed from his position as a servant of the people's. It appears that the Chinese could not tolerate this sort of maverick. The example implies two points. First, Chinese government has become aware of the lack of legal consciousness amongst Chinese officials, especially in the low echelons of government. Second, the rule of law in China still has its limitations. Therefore, there is clearly a need for a long-term national strategy to increase awareness and understanding of the importance of laws in China, especially among the many levels of government organisation. As to IPP, the government needs to promote the significance of IPP across the whole nation and back its position with a policy of stringent enforcement. In this way, a more protective environment will be created that will help to attract more MNEs to license IP into China and motivate indigenous innovation and creations.

International harmonisation: LeCom case is still pending It is crucial for China to further harmonise its IP laws and administration with international standards to create an atmosphere conducive to IP flows. This harmonisation not only includes consistency with international regulations on IP, but also comprises the enforcement of these regulations. China has made great efforts to improve the former, as shown at various points in the book. However, efforts to enhance the enforcement of IP from both a judicial and an administrative perspective have hardly begun. In order to make progress in this area, supervision by international organisations, such as WIPO and the WTO, is likely to play an important role.

International harmonisation also covers collaborations with different countries under bilateral and multilateral agreements regarding IP rules and their enforcement. A breach of an agreement by any party should be met with condemnation and pressure for conformity by the authorities. The LeCom case is a typical example in this respect.

Case 2-4: LeCom case Resolution of the LeCom case is not as straightforward as the MU case as judicial organs are also involved in this dispute. From the start, LeCom sought consultation with Chinese, American and European government agencies in order to bring about a solution to its difficulties, as demonstrated in our earlier discussion of this case. A number of different authorities from Europe have also been involved because the case does not only reflect problems between China and the US, but also with European countries. However, consultation apparently failed to generate a satisfactory result.

In the end, LeCom litigated in order to bring about a resolution to the problem. First, the case was filed to the Beijing Higher People's Court against the SDA. The Beijing Higher People's Court concluded in its verdict that the SDA had the right to decide if administration protection should be granted to a foreign applicant. Since then, the issue has become more dramatic because it has expanded from an administrative dispute between a FIE and the SDA to a judicial dispute involving a Higher People's Court. After the verdict from the Beijing Higher People's Court, LeCom further appealed to the Supreme People's Court for a resolution. This case has impacted adversely on China-US relations, and President Clinton even raised the issue with President Jiang Zeming when he visited the USA. At the time of writing, LeCom has not heard anything from the Supreme People's Court — the case is still pending, and the litigants do not know when there will be a final verdict.

In short, the resolution of the above difficulties has been a lengthy and uncertain process, which raises two issues for consideration:

- First, litigation is not effective enough, in part because this route is expensive (i.e. in time, money, and manpower), but mostly because it is not effective, as judicial organs do not function independently of the Chinese government, i.e. judicial organs are the attachment of the Chinese government;
- Second, while the legislative change has been revolutionary and China is moving in the direction of legal-ruling in business, we do not expect an immediate dramatic change in Chinese traditional customs and practices in commercial dealings. Indeed, it will take a long time to diminish "traditional" dealing, thereby allowing internationally accepted IPP and practices to serve the whole Chinese society.

At the end of the case, the study shows that the right or wrong of this controversial LeCom case is beyond the author's judgement. This is because the author cannot make a thorough conclusion without listening to the "stories" from the SDA and the relevant people's courts in China, which have refused to be interviewed by the author. As a result, access to relevant information for building up both sides of the story on this case has been denied. Therefore, however much bureaucratic dithering may have taken place, the Chinese position may be right.

Nevertheless, a number of issues remain arguable relevant to the case and regarding the Chinese IP system. First, as to the Chinese IP laws, lack of specificity is in the case of many other countries, including Western countries. In addition, it may be necessary to nail down every point more clearly if poorly trained or insensitive officials interpret the laws than when there are well-trained and sensitive officials. Second, laws may be necessary to be more

specific just because they are running against the deeply ingrained and long entrenched culture in knowledge sharing.⁹ The study doubts if a unified answer could be given at this stage.

10.2.2. Towards Resolving Problems with Chinese Companies or Partners

Given that the evolution of Chinese thinking about IPP is a long-term process, there appears to be a need for some intermediate methods that enable temporary solutions to the problems between Chinese partners and foreign companies. These problems mainly concern “flexible” IP contracts, the non-payment for IP services, and difficulties in know-how protection.

10.2.2.1. Multilateral relationships The first possible solution for these problems is *via* the establishment of multilateral relationships, i.e. multilateral partnerships with more than two business partners and multilateral networks, such as those involving government organisations and relevant product associations working to enhance business from outside. First, there is the need to develop multilateral partnerships. The aim of the expansion from a bilateral partnership to a wider multilateral one, is to pool the common “interests, involvement, influence and official capacity” to enhance collaboration and mutual benefit. Moreover, multilateral relationships involve the mutual supervision and control of any unilateral breach of contract because more than one party could be affected.

The second multilateral relationship takes the form of a multilateral network. “Guanxi” is part of the Chinese culture. Establishing a business-related network by incrementally moving the relationship from local- to state-level will facilitate the multinational partnership. This network could help partners to improve their relationships and to resolve problems by negotiation, and mediation. As one interviewed manager indicated,

“We must maintain a regular presence in China and talk and talk and talk. . . . Relations [are important] — you must get to know the Chinese managers and scientists and this takes ‘face’ time. Letters or emails or fax, etc. do not work”.

This not only implies the importance of communication between Sino-foreign managers but also reflects the lack of communication that often exists in FIE co-operation.

⁹ See Footnote 4.

10.2.2.2. Quality contracts from the start

Specific initial contracts A second way forward is to have well-specified, high quality contracts from the very beginning. Chinese business practice of adopting a general contract, which then forms the basis for negotiation on a continual basis, can only give rise to problems and be detrimental to future collaboration. In order to avoid this, it would be best to go through the pain of eliminating differences and specifying a more tightly defined contract from the outset. In other words, a foreign partner should emphasise the need for as “complete” a contract as possible in order to avoid future wrongdoings by any of the parties, whether partners, licensors and/or licensees.

Case 3-4: Contract debate between US Company A and Chinese Company C The Sino-American debate on a contract illustrates this point. If the two parties had not gone to arbitration, but had continued to have consultation in good faith, they would not have had paid such a high price, not only in terms of legal fees, but also, most importantly, in terms of the barrier erected to future co-operation. The two parties could have come to the negotiation table again and again as soon as the issue of IP payments arose. Alternatively, they could have even started communicating when the delivery had been delayed. In this way, they might have reached a more amicable settlement regarding the IP payment and late delivery.

10.2.3. Possible Solutions for Counterfeiting

10.2.3.1. “Partial solution” The problem of counterfeiting can be partially resolved. We use the term “partially resolved” to indicate two barriers to a complete solution. First, counterfeiting can never be totally prevented. This is because there is always an unsatisfied market. As we mentioned earlier, given the present stage of Chinese economic development, people’s incomes are too limited to buy the official, branded products (i.e. the MU T-shirt) — but there is a desire to own them. In this situation, stringent protection is only likely to reduce the extent of counterfeiting, rather than to eliminate it entirely. Indeed, even in developed countries, broadly the same reasons for counterfeiting still apply for certain groups of the population. According to the current research, for instance, some British business people asked the Chinese companies to manufacture the MU designed products without trademarks. When the products were transported into Britain, the counterfeiters would put a different trademark on the products before distributing them to the market, although the products themselves look identical to those of MU.

Second, the problem can be partially resolved only because litigation or the “threat” of litigation is limited in its reach. For instance, MU can prevent fake products from coming into the UK and the MU affiliated stores across the world. However, it cannot eliminate illegal manufacturers from producing fake products and those products being sold by un-affiliated stores in other countries, such as China, Thailand and India, because of the costs of policing, which increase with distance. In order to supervise illegal production and illegal selling, a large amount of money is required, and it simply may not be worthwhile.

10.2.3.2. Case 1-12: MU Counterfeiting problems in China can be partially resolved in two ways: internal control and external supervision. The MU case can again be used to illustrate the issues.

Internal Management

Product management Modern technology has made IPP more advanced. MU has taken some technological measures to prevent counterfeit products from being sold. For instance, it utilises an ample light test¹⁰ to check for counterfeits, which have come into the MU franchised stores. Fake products show differences from genuine ones under ample lights because genuine trademarks have expensive signs on them for which counterfeiters do not have the money to spend. Moreover, MU has also used a kind of secret blockade on the MU products to effect the same purpose. All of this represents an increased, but, in the light of the counterfeiting activity, a necessary burden on MU in terms of additional manpower and costs. In addition, the company applies stringent controls on the supply of the trademark badges to the Chinese producers. Therefore, when the products are imported into the UK market, proper inspection is conducted to prevent fakes from entering. However, the product control above indicates that counterfeiting can only be prevented in the country where action is taken against infringement. Unless there is an action in the producing countries like China, counterfeiting will still continue to damage “rights” holders’ interests.

Licensing management Many companies feel helpless about licensees who exceed the required amount of production. Only insiders know the extent of

¹⁰ An ample light test refers to ultra-violet light test to trademarks in order to tell the fake products from the genuine ones.

this kind of counterfeiting problem. The MU case is again illustrative. MU feels that there is nothing it can do to prevent licensing speculation as such. However, the author has a different opinion from MU believing that licensee counterfeiting is controllable in two ways:

- First, MU can stipulate very specific punishments to its licensees, who breach the contract by exceeding the production amount the licensor requires. As we discussed in the literature review and elsewhere, Chinese laws are vague and open to interpretation on many issues. Thus, a number of specific areas of potential future conflict between partners can only be specified in a contract. The contract should stipulate what actions each party should take if the other party breaches the contract.
- Second, companies with IP flows into China should increase inspection and supervision of the production and marketing of its products. Mr. O'Donovan of MU indicated that they were very keen to establish a good working relationship with China, but that there were difficulties to overcome because of the distance and, therefore, costs involved.

MU is currently reliant on its lawyers and trademark agent to deal with its problems. The agent is located in Hong Kong, therefore, MU itself also does not organise its operations in its best way. There are grounds for believing that this is not sufficient to solve the problems MU has encountered in China, as most lawyers do not work for just one company, and a lawyer's time is too valuable to commit to just the issue of counterfeiting prevention.

The same considerations also apply to the trademark agencies. As mentioned earlier, trademark agencies are authorised entities representing local Chinese and foreigners in dealing with trademark applications and examinations. Their time to inspect a specific infringement is very limited unless the infringer provides enough ready evidence. It is therefore, necessary for MU to assign their own people to supervise the business activities. Specifically, it may be necessary for MU to establish its own FIEs.

Brand protection communication Another useful strategy is for companies to establish communication networks with other "brand name" companies operating in China. The trademark managers in MU, for example, meet regularly with their counterparts, such as Levis and Puma, to discuss their experiences of counterfeiting in China and other countries, including the problems they have encountered and the measures that should be taken to solve these problems. This alliance helps these companies learn from one another and plan joint actions.

External control

Supervision and inspection The purpose of exercising vigilance over the Chinese market is to find out if Chinese manufacturers are licensed, and if products that are manufactured and sold in China are legally based on licensed inventions and/or trademarks. The recommendation here focuses on the passive role of government and the related lawyers' and agents' limited responsibilities. It is not in the interest of many companies to deal with counterfeiting problems by taking infringers to court. This is because, on the one hand, it is too costly in time and finance, and on the other hand, it is not necessary to exact criminal penalties because financial punishment and public apologies are more effective ways to deal with the problem and educate infringers. Thus, many companies prefer administrative solutions, such as warnings, injunctions, public apologies, fines, etc.

Administrative and judicial support Relevant government organisations in China, however, have been too passive to spend time on investigating specific misdemeanours. Moreover, they have limited manpower, which often precludes becoming involved in investigating each specific case. Nonetheless, where sufficient evidence is available, relevant organisations can be very co-operative in taking action to punish infringement. Therefore, it is important that, before a company like MU asks the government to move against infringers, it should find enough evidence to motivate the relevant government organisations to take action. Inspectors are needed to supervise production and marketing activities. These people may only be assigned from the licensing companies and must be dedicated to this one task, otherwise, it is very difficult to prevent and stop infringing activities in China. This policing strategy seems to work better in China in countering infringement, especially in preventing intentional infringing activities. In order to prevent and stop infringement in China, companies must work closely with the manufacturers and with the Chinese government, as well as educating consumers not to buy fake products.

In addition to government support, sometimes, judicial remedy could have been explored to stop counterfeiting, for example, through reliance on MU's copyright in its design marks as artistic works. Referring to the fake magazine again, it is clearly passing off. MU could have pursued a copyright infringement strategy under Hong Kong Law in parallel to trademark protection. Copyright is valid without any formality in the light of the Berne Convention. Although copyright is not emphasised in this research, IPP has to be looked at as a whole because some IPP cannot be dealt with by only one right. The truth is that there should not theoretically be any barriers to deal with

the unofficial MU magazine. The problem appears to be that MU trademark agent in Hong Kong did not actively take action in pursuing copyright protection.¹¹

Strategy in the Long Run: Operational Involvement

Doing business in China forms an important long-run strategy for many companies. MU has been involved in loose contractual business relationships with Chinese firms for 10 years. However, these relationships have been based on licensing and designing, processing and assembly — MU has not had any significant direct involvement in production and selling in China, and only its lawyer and agent in Hong Kong are involved in the business.

There are grounds for believing that stronger operational relationships should be established by MU in China. We believe that it is necessary for companies to set up FIEs. The purpose for doing this is to be involved in the day-to-day supervision of production processes, and in the examination of products from different stores and factories to make sure they are genuine, as well as the investigation of infringement and the education of consumers. The result of this more direct involvement would be that, in the long term, counterfeit manufacturing and selling problems would be less severe.

Summary and Conclusions

The current chapter has endeavoured to present corporate experiences for future use by interested parties, providing a number of possible solutions to the associated problems. The analysis of the survey responses shows that:

- (i) All the companies had, without hesitation, chosen consultation as the principal strategy to solve problems;
- (ii) 50% of the respondents had used mediation;
- (iii) 3% of the companies preferred arbitration to mediation, believing that it was more effective than governmental co-ordination;
- (iv) Unsurprisingly, litigation was always the “route of last resort”, with only 20% of the companies with problems using this mechanism.

US companies accounted for 70% of this group, the rest were British. Thus, one of the important findings is that companies are unwilling to institute legal

¹¹ See Footnote 4.

proceedings, arguing that judicial enforcement was costly and uncertain. Consultation, including commercial settlement, was the most efficient method for the resolution of problems. However, over 55% of the companies in the sample still have remaining problems.

With regard to the common difficulties experienced with government agencies and organisations, a principal solution appears to be to re-application, but with convincing evidence about the rationale for protection and why the initial decision was inconsistent and/or incorrect. However, it should not be assumed that the problem necessarily lies with the company's initial application, and the case that it originally put forward. The present research highlights the continuing inadequacies with regard to administrative protection and judicial enforcement, suggesting that changes are crucial to improvements to the IP environment in China. In particular, we have pointed to a tightened central control and co-ordination as the key to reducing organisational inconsistency. Steps to prevent protectionism (at the sector and provincial levels) and to strengthen enforcement are required from the top, in order to encourage fair competition and act as a further stimulus to the attraction of advanced technologies into China.

In managing corporate problems, perhaps the single most important strategy is to spend time and effort at the beginning of the relationship specifying (as far as is possible) a "water-tight" contract. We have seen how the different cultural approaches make this difficult. However, the negotiations over the design and content of the contract form an important part of the education process, for all those involved. In the case of the Chinese partner, this is a time when the Western company can bring issues of IP and the importance and benefits of protection to the fore. There is clearly a trade-off, in the sense that "stiff" negotiations may put the Chinese partner off, but the costs of this have to be weighed against the problems that a "flexible" contract will bring in the future.

A further potentially valuable option is for companies to establish multilateral relationships with partners and relevant agencies to be alert to counterfeiting problems. Although there is not an effective way to combat counterfeiting, prevention from being copied is a key to future progress in this area, and it is better to exert internal control and external supervision relating to operation.

It is obvious that the above practices and the more general issues raised in the book are not unique and limited to China. They might apply to other countries in which legal enforcement of IP is still insufficient. The key point here is that enhancement of administrative protection and enforcement of judicial control are the core to changing the IPP environment. Future economic

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development in China is dependent on increased access to FDI and foreign technology. However, further FDI and transfer of foreign technology are reliant on strong and effective protection of IP in China, across the whole society. The management of IP will only be effective and efficient when *both* micro- and macro-level IP protection has been enhanced.

Conclusions: Future Challenge and Success in Cross-border Intellectual Property Flows

The concluding remarks include four topics below:

- Summary of the previous research and current studies;
- Empirical results;
- Research implications, contribution and limitations, and necessity for further research;
- Most importantly, the final remarks provide eleven factors for successful cross-border IP flows.

Previous Research and Current Studies

This book aims to realise three objectives. Firstly, it is to establish the nature of the problems that MNEs from the US and UK have encountered in their IP flows into different companies in China. Secondly, it is to identify the causes of these problems. Thirdly, it is to provide possible solutions for the problems. Four factors underlie the interest in these topics and necessitate the current research. Firstly, it was the lack of previous research on the problems relating to IP flows. Secondly, there was the scarcity of empirical studies of the current Chinese IP system, even after 20 years of operation. Thirdly, studies of IP management have been very limited, and the Chinese experience has been almost totally ignored. Finally, the presence of cultural biases influences previous research.

The empirical research conducted by the author is a combination of postal questionnaires, e-mail exchanges, telephone enquiries, personal interviews and case studies. In total, information was collected from 183 companies from the

UK and US that were known to be involved in the *Top 500 FIEs in China*, as listed in the *Times* and *Fortune* magazines. The companies were mostly screened by surfing the company websites and analysing the computer database *Who Owns Whom?* The resulting sample of companies included 63 UK and US FIEs, 63 MNEs from the US and 57 from the UK. Most companies were involved in manufacturing activities, with extensive operations in China. The initial results and analysis were based on 51 valid postal questionnaire responses. The questionnaire design considered issues of relevancy, reliability, validity, structure, confidentiality and culture. This initial information was then supplemented by over 30 telephone contacts, 18 personal interviews, over 100 e-mail exchanges and case studies — which completed the data collection.

The research results have been presented using a mix of tabulations, pictographs and photographs. Considerations of data accuracy, secrecy and security have been important during the process of data checking, filing and analysis, as well as in the presentation of the results. The two-way analysis of questionnaires and cases serves the purpose of establishing the probabilities of experiencing problems in IP flows, their extent and nature, and their solutions — thereby providing suggestions to both companies and the government with regard to policy improvements. Results from different interviews and case studies were analysed based upon the models the researcher has designed.

Although the research focuses on a relatively new subject area, relevant studies have been reviewed across a number of discipline areas. Firstly, the historical overview starts from the sporadic existence of IPRs in the late 19th century to the dramatic change in the systematic formation of IPP in China from the 1980s. Some historical and cultural reasons are explored in this section to examine the reasons for the absence of IPP in one of the oldest civilisations. Secondly, the book introduces the basic theories of IPRs and the importance of international harmonisation of IPP, providing some evidence of the complexity of IPRs and the role of international influences. Thirdly, it also provides a picture of the current IP framework in China, including the triple system and the dynamic IP activities under this relatively new system. Additionally, the book also focuses on the corporate perspective, in order to illuminate the crucial importance of IP management in the context of the complex corporate network in China.

The previous study indicates that IP management from a corporate perspective was often ignored, which provided the rationale for the current study. Consequently, the present study developed new models for analysis, collected survey data and constructed case studies in order to realise the research objectives.

Empirical Results

The book first studies the discrepancies of the current IP system supported by case studies. The results of the postal questionnaire reveal that 35 out of the 51 companies encountered various degrees of problems with respect to their IP flows into China; the remainder has not encountered any problems. Patented knowledge has been associated with both the greatest and least degree of difficulty in transfer, depending on the technologies and products involved. Know-how has been proved to give rise to above moderate difficulties in transfer. The other forms of IP, including trademarks, industrial designs and utility models, were all reported to give rise to medium levels of inflow difficulties. The interviewed companies are extremely diverse in terms of IP flows, ranging from one to over 300 contracts and from £100,000 to £3,000 million in terms of the value of IP transferred. Most respondents were IPMs, technology managers, development managers and regional managing directors from three nationalities (Chinese, British and American), and 80% of them stated a preference for their individual names and company information to remain unidentified. Therefore, the results of the present research have been presented mostly in a form that ensures anonymity.

Based on the research model, three steps were taken to conduct the empirical analysis: detection of problems, identification of their causes and isolation of potential solutions. All three steps were first conducted in a general analysis based on the 51 questionnaire responses and, then, in an in-depth analysis using the responses of 33 companies that were willing to participate further in the study.

Detection of Problems

The research detected seven common problems from the survey companies. They included three related to relevant Chinese organisations and four linked with different companies. In relation to government, 69% of the companies had experienced difficulties with Chinese organisations in three similar areas, namely: inconsistency of IP application and registration, inadequate administrative protection, and weak judicial enforcement. Moreover, almost 50% of the responding companies revealed that there had been problems with Chinese partners from FIEs and CDEs in four main areas: unreliable contracts, non-payment for IP services, difficult know-how transfer and counterfeiting. Over 50% of the companies had been the victim of counterfeiting and other infringement, including blind copying, licensing speculation and forgery.

Identification of the Causes of Problems

The research identified a number of causes of the problems occurred with regard to IP flows into China. The identification was undertaken using the answers to both the structured and unstructured questions from the questionnaire analysis, augmented by the case studies. The analysis demonstrates that IPR enforcement by the government and technology control at the corporate level form the two most important reasons for the problems. In addition, problems with the IP legislation, recipients' capabilities, and management differences are also decisive causes of difficulties in IP transfer. While cultural differences, financial constraints, and required royalties are also influential factors, they are less significant sources of problems. Nonetheless, these factors should not be ignored in considering individual corporate situations.

The analysis of the answers to the unstructured questions from the questionnaire suggests three important reasons for the difficulties with Chinese government organisations and four crucial causes for the problems with IP partnerships. The three reasons associated with the government organisations arose from their ignorance (and possibly negligence) in dealing with IP applications and registrations, the unpredictable regulations for administrative protection and the weak enforcement of IPRs. The four partnership reasons were associated with the contrasting views between the West and China concerning asset ownership, different negotiation styles, different contractual principles, and Chinese partner's affiliation with the government and non-partners. The cumulative effect of these problems is to create massive barriers for corporate IP flows. Furthermore, the thorny issue of counterfeiting has resulted from the popularity of the products being copied, the incentive to speculate, loose operational control, passive government attitudes, insufficient contractual punishment and inadequate penalties nation-wide.

Possible Solutions to Problems

The research also endeavoured to provide solutions for the commonest problems. The general analysis shows that all the companies prefer consultation as the main strategy for the solutions of problems (details can be seen in Chapter 10). Half of the responding companies have used mediation as the second alternative, but 3% of the companies believe that arbitration is more effective. Only 20% of the companies have instituted legal proceedings in comparison with 34% going for arbitration. US companies are more likely to litigate than UK companies, accounting for 70% of the companies that have

resorted to legal procedures. However, there is no doubt that companies regard legal action as the last resort because they believe enforcement is not sufficiently effective for justice. Instead, they believe consultation is the most effective and efficient strategy to solve most of the problems, with commercial settlement as an adjunct for economic compensation. Over 55% of the 35 companies with IP problems still have unsolved problems.

Specifically, the research has also attempted to provide solutions for the commonest problems. In relation to the difficulties with government organisations, re-application accompanied by persuasive evidence appeared to be the most effective method of resolving rejections or inconsistent approvals. However, companies are entirely reliant on the Chinese government to reinforce administrative protection and judicial enforcement. We believe that the IP environment would be significantly improved by a tightened central control, increased co-ordination across official bodies, and also the prevention of local protectionism.

In respect of corporate IP management, companies would improve the effectiveness and efficiency of IP flows if they established multilateral relationships with partners and government, as well as more closely specifying and tightening IP contracts. However, counterfeiting appeared to be a very thorny issue to resolve. Instead, the earlier discussion suggested that greater prevention, by enhancing internal control and external supervision of IP-related operations in China, was likely to prove the best channel.

Implications, Contribution and Limitations of the Study

The significance of the research has been reflected in the implications for governments and corporations. Firstly, with respect to the Chinese government, the newly established system is inadequate in safeguarding IP, and this acts as a barrier to technology flows. Improvement to the system requires the government to fine-tune the current legislation and reinforce judicial and administrative protection. Legislatively, it is necessary to specify the IP legislation as precisely as possible, in order to leave as little as possible for interpretation by government agencies and organisations. This would reduce confusion amongst corporations when they consult the relevant laws for business. In addition, it is important to promulgate a law to co-ordinate and, thereby, increase the degree of consistency of second tier legislation, including prevention and resolution.

In relation to the reinforcement of judicial and administrative control — which is central to the effective operation of IPP — it is necessary to tighten

the management of the system. This should occur from the top first and, then, gradually establish stringent control over IPP nationally, induce systematic change in China. In order to do this, it is important to improve the quality of top officials, judges and lawyers. The top-level enforcement serves the purpose of setting a good example to the wider public. Meanwhile, it is necessary to accelerate the educational process to increase the awareness of IP and promote the significance of IPP. Moreover, it is equally important to increase the penalties for IP infringements. Taken together, these measures represent a potentially viable route to reducing IP misbehaviour. The future development of China relies on foreign capital and technology, but sustainability of the flows of foreign capital and technology hinges on the government's determination and action in improving the enforcement environment.

Secondly, the empirical results also have implications for the governments of developed countries and developing countries. The findings of the present research form an external source of information that foreign countries can utilise to persuade China to improve its existing IP system, especially from an enforcement perspective.

The research results also have implications for the governments of developing countries, especially when their IP enforcement and legal safeguards are inadequate to support corporate IP flows. In essence, improvements require the further tightening of IP administration and protection, and the reinforcement of judicial power. Such changes require considerable resources and they take time to evolve, but these factors are fundamental to changing the image of IP in developing countries. As a result, FDI and foreign technology from MNEs should flow more smoothly into developing countries, and the increased access to science and technology acts to further stimulate economic development.

Thirdly, the current research has implications for foreign companies who are interested in, or have already carried out IP flows into China. It is important for foreign firms to establish an effective management of IPP at a corporate level with business establishments in China. The purpose of corporate measures is to create small but strong IP defences against the big but weak IP environment. These empirical results may shed some light on the existing investors with their problems. These findings may also provide a better understanding, allowing current and future investors to take preventive measures in order to avoid repeating the same mistakes as their predecessors in the process of IP flows.

Finally, for CDEs and Chinese partners, the research results have two implications. Firstly, they may provide a better understanding of Sino-Western relationships in dealing with IP flows. This understanding may engender better communications amongst partners, improving the basis for future co-operation.

Secondly, the results may provide some insights to Chinese managers and manufacturers in their practical understanding of the need to encourage IPP. Hopefully, such an understanding will boost IPP and, thereby, ITT from foreign countries to China.

The current research implies that improvements to national enforcement and corporate control of IP are necessary to ensure the effective and efficient management of IP. In essence, IP can only be managed successfully when micro-level and macro-level IP control are both enhanced.

Aside from the significance of this research for governments and companies, the book also has its importance in academia. This is because the book has focused on a relatively new and important area of academic research. With the increasing importance of IPR, the study of IP is not lawyers' franchising any more, the study has become more and more interdisciplinary. However, the study of IP in corporate management received little attention. The current research has attempted to rectify this situation with intentions of attracting academic researchers in this new area.

Nonetheless, several factors have constrained the empirical results indicating the importance of continuity in this relatively "raw" research area. Firstly, the author had expected a larger sample. However, computerised screening of the companies only generated 183 companies with business links with China from the US and UK. Secondly, the response rate was unsatisfactory. There were 99 companies responded to the initial survey, of which 51 gave valid answers to the questionnaires; the rest politely refused to participate. The 51 companies only account for 28% of the total questionnaire distribution. On the other hand, however, this is not out of line with other social science surveys. Given the sensitive subject matter dealt with in the present work, in many respects, the response rate was perhaps better than might have been anticipated. Thirdly, due to the small size of the sample of usable responses, the current research was limited in the extent to which it could undertake comparisons with respect to IP performance. A larger sample would have allowed more detailed comparisons of a number of dimensions, including, between UK and US MNEs, between their FIEs, comparison amongst different forms of FIEs, between FIEs and CDEs as recipients, etc.

Finally, three IP related areas remain unexamined — industry, SMEs and IP outflows. The study has not attempted a more detailed comparison across industries. Initially, the author considered potential industry differences and had planned to choose one or two sectors as a specific focus. However, the difficulty in finding appropriate target companies effectively eliminated this dimension from the current research. The author did not explore the IP performance of SMEs from the two developed countries. However, SMEs have

played an extremely important role in bringing dynamic competition and thriving business to China. Studies of these companies would offer a significant extension to the scope of the present research. Furthermore, the current studies have concentrated on IP inflows from the UK and US, and outflows from China to other countries have been ignored. Official statistics indicate that technology exports by China have increased significantly in recent years covering 79 destinations in 1996 (MOFTEC 1997: 63). However, there is no research on the corporate performance of technology exports. Research in this area could also complement the current empirical results.

Future Challenge and Success in Intellectual Property Flows

A good deal of effort has been spent on analysing the problems that different companies have encountered, as well as some of the solutions. Although companies have encountered varying degrees of problems — in some cases without them being fully resolved, this does not imply that the companies have failed to transfer IP to China. On the contrary, there has been considerable success in many industries. Moreover, companies that did not report any problems in IP flows have positive experiences that may be helpful to other foreign companies, and may throw light on further future practice of IP flows. The following discussion summarises the experiences of the 51 companies in the sample with regard to the factors leading to successful IP flows.

(1) *Patience*

The importance of patience was identified by 32 of the 51 responding companies, accounting for 63%. It is pointless for IP providers to be in a hurry when Chinese partners are slow. Although modernisation of China in many areas is initiating an acceleration of the pace of business, it is hardly “fast” by Western standards. Patience is important part of the Chinese culture. There is saying in China, that, “Men in a hurry do not succeed”. Thus, when foreign business people become involved with IP flows into China, patience is the first step for them to quickly adapt to the slower cultural pace of the domestic business environment.

(2) *Good-Partners and Good Relations*

This is not a new topic, and has been emphasised by many researchers and commentators on the success of partnerships. In the present survey, 32

companies (63% of respondents) further emphasised its importance in the context of IP flows. The partners here refer to international joint venture partners, and partners to licensing agreements.

There are at least two aspects to a “good partnership”. The first concerns the need to select a suitable partner. In China, the pace and extent of economic development is diverse across sectors and geographical areas. In some regions, highly sophisticated and well-developed enterprises have adopted a westernised approach to business, have the internal capacity and ability to absorb and utilise new technologies, and have the necessary political influence to “get things done”. A Chinese company with these characteristics is likely to result in a more successful Sino-Western partnership than one without them, other things being equal. The success of the relationship also depends upon the existence of well-placed trust. For example, in licensing, one interviewee argued that it was important to “. . . get to know the prospective licensee to determine if it can be entrusted with know-how and keep the business reputation for the licensed technology”. It is crucial for partners to know the background of the co-operation, and have the required business and language knowledge. Because many Chinese partners have been abroad for further education, their presence helps to increase the efficiency of co-operation.

The other important aspect in a “good partner” relationship from the point of IP flows is that they work to “develop” the relationship. The development of harmonious and forward-looking relations does not happen through distant instruction, superiority, and domination. Such relationships require communication and commitment to the mutual business, as well as involvement in cultural learning. Success in these activities lays the foundations for future co-operation.

(3) Vocational Training

According to 70% of the responding companies, vocational training and education are vital for IP recipients. Vocational training should cover IP and IPP, outlining its significance in the management of technology and the relationships between the partner companies. As stated earlier, public knowledge of IPP in China is currently weak, as a consequence of the Chinese cultural inheritance and the political effect of the Communist regime. Although this mindset is changing, it is a slow process. Therefore, vocational training can accelerate awareness from the top to bottom of the partner companies, eventually becoming embedded in company routines and structure. In this kind of corporate environment, Chinese partners would be aware of the

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consequences of leaking IP. In particular, Chinese partners would realise that protecting their partners' IP is for the benefit of mutual business. Until this happens, the corporate management of IP will always be an up-hill struggle — as one manager said, at the present point in time, educating licensees and partners is “a constant battle”.

(4) *Transfer of Intellectual Property Ownership*

Fifteen percent of the companies interviewed cited the transfer of the ownership of IP as a strategy that might be used to safeguard and, thereby, obtain immediate benefit from the IP. There are two principal reasons underlying this argument. Both turn on the fact that, while it is vital to protect IP from being known to (or used by) rivals, the current environment in China is unpredictable with regard to the “safety” of IP. The first reason lies in the fact that the technology supplier receives an immediate return and any losses from leakage then fall more heavily on the Chinese firm purchasing the IP. Second, the ownership of the IP by the Chinese enterprise persuades it of the need to protect it in order to obtain a better return on the investment that the company made in purchasing the IP. While these arguments appear reasonable, however, there may be grounds for believing that Western suppliers may not be willing to wholly relinquish their title to ownership because their R&D and patenting efforts might be blocked or challenged in the future.

Apart from the experiences and the resulting suggestions for company strategy listed above, the following also presents a number of thoughts about improving the success of future IP flows. These points have been mentioned already in different chapters, therefore, there is no point in repeating the details. However, it is useful for completeness to provide a summary of them.

(5) *Consultation*

When problems arise, it is important to attempt to solve them by good-faith discussions. This consultation should be continued until the problems are solved. When, given sufficient time and effort, consultation does not appear to be working, the company should try to enter into dialogue with the supervising authorities of the Chinese partners.

(6) *Multilateral Relationships*

It is beneficial to expand from a bilateral to wider, multilateral relationships between organisations and companies that have common interests, influence,

involvement or access to official networks. This can further benefit from incrementally expanding these relationships from local to state level. However, this process requires a significant degree of commitment, involving continual negotiations and investments in relationship development. The potential benefits for the company in terms of business development and providing solutions to problems can be considerable.

(7) Support from Chinese Organisations

When conflicts arise between different partners and/or between companies and infringers, one alternative is to go to relevant Chinese organisations. Although this process can be very bureaucratic, it is still considered to be a better route than immediately instigating legal proceedings. However, this route is only likely to be productive if it is preceded by the collection of detailed and persuasive evidence regarding the problems, which can be presented to the Chinese organisations. This is because government organisations would not have the time and manpower to investigate the details, only to confirm or prove the truthfulness of the presentation. However, given the relevant evidence, government organisations would be willing to take action to co-ordinate or solve the issues.

(8) Commercial Settlement

Commercial settlement is another potentially effective route, which enables the IP owner to recoup losses incurred through pirating and infringement by unauthorised firms. This can be achieved by negotiating with the infringers or pirates, either directly or through a third party. When this does not work, a commercial settlement can still be sought using the assistance of relevant government organisations. Direct negotiations also provide a mechanism for the aggrieved company to collect evidence and construct a case that, if necessary, can be presented to the government organisations at a later date.

(9) Contractual Surveillance

Planning with careful attention to detail in the IP contract is likely to reduce the probability that IPRs will be violated. This is because strictly worded agreements and contracts often help in resolving IP disputes. However, the

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limitations of litigation should be borne in mind, even given a tightly worded contract. As two of the IPMs said, “Litigation is not viable . . .” and “. . . conventional legal processes often won’t work well”. Therefore, partners should be creative and pragmatic in stipulating the resolution mechanisms in the contract that are intended to prevent future wrongdoings.

(10) *Level of Direct Involvement*

A higher level of direct involvement means more “on the spot” supervision. The rationale is that it is impossible for the company to ensure that its IP is well-protected and secure without surveillance. The MU case has been used to illustrate the validity of this argument, but also in the case of partners in FIEs — both examples have been described earlier. More importantly, this should also apply to companies without direct investment activity, such as investment in “processing and assembly” (sub-contracting), and licensing.¹ A higher level of involvement can involve product control, supervision of operations, inspection of IPP in China, factory visits, etc. With this kind of involvement, the extent of pirating and infringement, as well as other IP problems can be reduced. However, the increased costs of higher direct involvement have to be weighed against the benefits.

(11) *Technology Control*

This issue was emphasised by all the responding companies. If the official enforcement mechanisms are weak, companies should take their own measures to protect their IP. One strategy is to exert stringent control on the ownership of their technology. One British manager stated that IP owners should, mark “all pages with know-how or other IP as ‘proprietary and confidential’ ”. The manager emphasised the importance to place “detailed information like process design packages in a format that is difficult to reproduce” in order to maintain control over the technology. It is also crucial to limit IP distribution and prevent IP transfer without signing a specific contract.

The research has provided 11 suggestions for corporate practice with regard to future IP flows into China. They include seven preventive measures and four

¹ The Chinese government used to categorise processing and assembly, licensing and leasing as part of foreign direct investment. But now these forms are categorised as other foreign investment.

alternatives when problems arise. Although there are different barriers confronting investors and technology transferors, it is undeniable that China has been one of the most attractive markets in the world. Under this circumstances, on the one hand, investors and transferors must admit the limitations of the market in IPP, as China after all has only established its IP system for less than two decades. This is incomparable to the IP system in the UK and USA, which were the two earliest founders of IPP. In the tide of the global integration, the Chinese government has done well and is making efforts to keep its system in line with the international standards. It will take time and effort to evolve and to make the whole society have the ideology of private right protection. On the other hand, investors and transferors do need to take positive attitudes and actions in their business, especially when problems strike. A partnership in whichever form is like a marriage, it takes effort and energy to make the relationship work! A business in whichever form and in whichever country is like a roller coaster, it needs business people to confront challenges achieving sustainable success!

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Appendices

Appendix A: Intellectual Property-related Legislation in China

IP-related Legislation	Year enacted and revised
Trademark Law of the PRC	1982, 1993 and 2001
Patent Law of the PRC	1984, 1992 and 2001
Regulations of the PRC on the Administration of Technology Introduction Contracts	1985
Implementing Regulations of the Ministry of Foreign Economic Relations and Trade for Examination and Confirmation of Export Enterprises and Technologically Advanced Enterprises with Foreign Investment	1987
Implementing Regulations on the Administration of Technology Introduction Contracts	1988
Copyright Law of the PRC	1990 and 2001
Implementing Regulations of the Copyright Law of the PRC	1991
Regulations on Computer Software Protection	1991
Implementing Regulations of the Patent Law of the PRC	1992
Provisions on the Implementation of the International Copyright Treaties	1992
Implementing Regulations of the Trademark Law of the PRC	1993
Decision on Punishment of Copyright Infringement	1994

Source: Added based on Bosworth & Yang (2000: 457).

Appendix B: Intellectual Property-related International Treaties, Conventions and Agreements Signed by China

International Treaties and Convention	Year Signed
Convention Establishing the World Intellectual Property Organisation and a Contracting Country of WIPO	1980
Paris Convention for the Protection of Industrial Property	1985
Treaty on Intellectual Property in Respect of Integrated Circuits (signatory country)	1989
Madrid Agreement Concerning the International Registration of Marks	1989
Berne Convention for the Protection of Literary and Artistic Works	1992
Geneva Convention for the Protection of Producers of Phonograms against Unauthorised Duplication of their Phonograms	1992
Universal Copyright Convention	1992
Patent Cooperation Treaty	1993
Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure	1993
<i>TRIPS</i> (signatory country in 1994)	2001

Source: Added based on Bosworth & Yang (2000: 457).

Appendix C: Treaties, Conventions and Agreements under WIPO and the WTO

Short Title	Complete Title	Signed and Last Amended	Signed Place	Purpose
WIPO Convention	Convention Establishing the WIPO	1967, 1979	Stockholm	Promoting and Administering IPP and Co-operation Worldwide
Paris Convention	Paris Convention for the Protection of Industrial Property	1883, 1979	Paris	Protection of Industrial Property: Patent, Marks, Designs, Utility Models and Unfair Competition
Berne Convention	Berne Convention for the Protection of Literary and Artistic Works	1914, 1979	Paris	Protection of Authors' Rights in their Literary and Artistic Works
Rome Convention	International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations	1961	Rome	Protection of Neighbouring Rights: Rights of Performers, Producers and Broadcasting Organisations
Madrid Agreement	Madrid Agreement Concerning the Registration of Marks	1891, 1967	Madrid	Securing Protection of Marks Applicable for Goods and Services by Filing in WIPO
Integrated Circuit Treaty	Treaty on Intellectual Property in respect of Integrated Circuits	1989	Washington	Protection of Integrated Circuits and Layout Designs
Hague Agreement	The Hague Agreement Concerning the International Deposit of Industrial Designs	1925, 1960	The Hague	Securing Protection of Industrial Designs Deposited in WIPO
Nice Agreement	Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks	1957, 1979	Nice	Adoption of International Classification of Goods and Services for Mark Registration

Appendix C: Continued

Short Title	Complete Title	Signed and Last Amended	Signed Place	Purpose
Vienna Agreement	Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks	1973, 1985	Vienna	Adoption of International Classification of Categories, Divisions and Sections for the Figurative Elements of Marks
Lisbon Agreement	Lisbon Agreement for the Protection of Appellations of Origin and their International Registration	1958, 1979	Lisbon	Protection against any Upsurpation or Limitation of Appellation of Origin and International Registration for them
Locarno Agreement	Locarno Agreement Establishing an International Classification for Industrial Designs	1968, 1979	Locarno	International Classifications by Classes and Subclasses for Industrial Designs
Patent Cooperation Treaty	Patent Cooperation Treaty	1970, 1979	Washington	International Application of Patent
Strasbourg Agreement	Strasbourg Agreement Concerning the International Patent Classification	1971, 1979	Strasbourg	Unifying Classification System and Harmonising the National Legislation for Patents and Utility Models and their Certificates
Phonogram Convention	Convention for the Protection of Producers of Phonograms against Unauthorised Duplication of their Phonograms	1971		Protecting Producers of Phonograms
Budapest Treaty	Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure	1977, 1980	Budapest	International Recognition of the Transmittal of a Microorganism to an International Depository Authority for Administrative and Judicial Procedure relating to Patent Applications
Trade Mark Law Treaty	Trade Mark Law Treaty	1994		Protection of Marks which are Visible Signs relating to Goods and Services

Appendix C: Continued

Short Title	Complete Title	Signed and Last Amended	Signed Place	Purpose
WIPO Copyright Treaty	WIPO Copyright Treaty	1996	Geneva	Developing and Maintaining the Effective and Uniform Protection of Authors' Rights in their Literary and Artistic Works
Agreement between WIPO and the WTO	Agreement between WIPO and the WTO	1995	Geneva	Establishing a Mutually Supportive Relationship and Appropriate Arrangement for Co-operation
TRIPS Agreement	Agreement on Trade-related Aspect of Intellectual Property Rights	1995	Uruguay	Protecting all the IPRs with Minimum Standards, Enforcement, Dispute Settlement and other General Provisions and Basic Principles

Source: Compiled by Yang based on the treaties, conventions and agreements from WIPO and the WTO.

Appendix D: Questionnaire

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Feb. 11, 00

Dear Intellectual Property Manager/Technology Manager:

SURVEY ON "INTELLECTUAL PROPERTY FLOWS TO CHINA"

My name is Deli Yang. I am a Ph.D. researcher under the supervision of Professor Derek Bosworth at the Manchester School of Management, University of Manchester Institute of Science and Technology (UMIST). Please bear me out to read through the letter. My *research objectives* are to evaluate the extent and nature of difficulties that multinational enterprises have encountered over intellectual property flows to China, to analyse the resolution of these difficulties, and to locate the unsolved problems and reasons. Meanwhile, we are also very keen on knowing the reasons of your success in managing intellectual property flows.

The open door policy in China since 1978 has dramatically increased technology transfer activities. Consequently, intellectual property, such as patents, trademarks, utility models, industrial designs, know-how, etc., has become one of the most important concerns of multinational enterprises during the process of technology transfer. However, China is a country whose integrated intellectual property system has been in place for less than 20 years. Therefore, it is inevitable that your company has encountered many problems associated with intellectual property flows into China.

Accordingly, I enclose a four-page survey questionnaire, which I should be grateful if you would complete based on your own experience and knowledge. Involvement of this questionnaire will only take you 20 minutes. I understand how precious the 20 minutes can be to you as one of the most important managers in your company. If you could not respond it, I would be very grateful if you could kindly authorise one of *your* subordinates to give me a

response. *Your response is crucial to reach the above objectives of the research. My future studies will be at stake without your kind support. Any information that you provide will be treated in the strictest confidence.* The results will be summarised and published in a way that maintains the anonymity of individual contributions. Hence, no individual or company names will be identified in any reports relating to this research unless respondents are willing to do so. *A synopsis of the final study will be sent to all the participating companies.* The full report will be made available on request. It would be appreciated if you would return the questionnaire to the address (given at the top right of this letter). Thank you very much for your support and a prompt reply would be very much appreciated.

We are hoping to hear from you soon.

Yours sincerely,

Deli Yang

CC. Professor Derek Bosworth

Encl. Survey Questionnaire and a Checklist of the Terminology in the Questionnaire

QUESTIONNAIRE

All responses will be treated in the strictest confidence!

Please answer the questions that most accurately describe your company

1. Has your company involved in intellectual property flows into China?
Yes
No

2. If yes, has your company involved in the following intellectual property flows?
 - a. patents
 - b. trademarks
 - c. industrial designs
 - d. utility models
 - e. know-how
 - f. others

3. The recipients of intellectual property in China from your company are:
 - a. wholly foreign-owned enterprises
 - b. Sino-Western joint ventures
 - c. Chinese state-owned enterprises
 - d. Others

Please specify: _____

4. Please indicate the *numbers* of intellectual property contracts your company has signed with China.
()

5. Please give *roughly the total value* of intellectual property flows from your company to China.
£ ()

6. Has your company encountered any difficulties involving Intellectual Property flows to China?
Yes
No

7. If you have experienced any difficulties, please tick the areas of difficulties in the following:

- a. problems with Chinese partners within your subsidiary or joint ventures in China
- b. problems with other foreign-invested enterprises in China, which are not your branches
- c. problems with relevant government organisations in China
- d. problems with Chinese companies
- e. other difficulties

Please specify: _____

8. Could you describe in detail what problems are existing if you tick any of Question 7?

9. On a scale of 1 to 6, please circle the extent of difficulties your company has faced in the process of IP flows:

Not difficult	1	2	3	4	5	6	Extremely difficult
a. patents	1	2	3	4	5	6	
b. trademarks	1	2	3	4	5	6	
c. industrial designs	1	2	3	4	5	6	
d. utility models	1	2	3	4	5	6	
e. know-how	1	2	3	4	5	6	
f. others	1	2	3	4	5	6	

Please specify: _____

10. On a scale of 1 to 6, please circle the reasons of the difficulties based on the extent of importance:

Not important	1	2	3	4	5	6	Very important
a. culture, religion or ethics:	1	2	3	4	5	6	
b. required royalties	1	2	3	4	5	6	
c. financial restraints from recipients	1	2	3	4	5	6	
d. management differences	1	2	3	4	5	6	
e. recipient capability	1	2	3	4	5	6	
f. technology control	1	2	3	4	5	6	
g. inadequate Chinese legislation	1	2	3	4	5	6	
h. inadequate judicial enforcement	1	2	3	4	5	6	
i. others	1	2	3	4	5	6	

Please specify: _____

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11. Please specify the reasons of the difficulties based on your own experience:
12. Please rank the method(s) your company has used to resolve problems on a scale of 1 to 4:
- | Ranking | 1 | 2 | 3 | 4 |
|-----------------|---|---|---|---|
| a. consultation | 1 | 2 | 3 | 4 |
| b. mediation | 1 | 2 | 3 | 4 |
| c. arbitration | 1 | 2 | 3 | 4 |
| d. litigation | 1 | 2 | 3 | 4 |
13. How does your company manage resolving these problems? (Use reverse of the paper if necessary)
14. Are there any difficulties with respect to technology flows that remain unresolved in China?
- Yes
No
15. If yes, please describe the difficulties and possible reasons for them (use reverse of the paper if necessary.)
16. Could you estimate roughly the commercial loss caused by problems in the process of intellectual property flows into China, either in British £ or US\$?
- £ () or US\$ ()
17. Please indicate the keys to the successful corporate management of intellectual property flows into China from your point of view? (please use reverse of the paper if necessary.)

FOLLOW-UP STUDIES

Thank you for taking the time to complete the questionnaire. Your assistance is very much appreciated. *All responses will be treated in the strictest confidence.* We will be conducting some follow-up interviews in the near future.

18. Would you be willing to participate in the follow-up interviews?
Yes
No
19. If yes, please tick the type of interviews you would be willing to undertake:
- a. E-mail
 - b. face-to-face
 - c. mail
 - d. fax
 - e. telephone
20. In consideration of confidentiality, please indicate your preference in the following:
- a. my real name can be revealed
 - b. my company name can be revealed
 - c. do not reveal my individual name
 - d. do not reveal my company name

Please provide contact details in order for me to conduct follow-up studies and send you a synopsis of the final result:

Name: _____ Position: _____

Telephone: _____ Fax: _____

Email address: _____

Company/Organisation: _____

Correspondence address: _____

Thank you very much again for your support. I am sincerely hoping to hear from you.

Deli YANG

TERMINOLOGY IN THE QUESTIONNAIRE

(for reference only)

Arbitration: parties in dispute agree to submit their dispute to an arbitration body for a settlement.

Consultation: parties in dispute try to resolve their problem(s) through negotiations between themselves.

Foreign-Invested Enterprises: enterprises with foreign operations within China, including wholly-foreign owned enterprises, equity joint ventures, contractual joint ventures and joint oil exploration.

Industrial Designs: rights given to designers for their new designs of patterns and/or colours with artistic features for industrial application.

Intellectual Property Flows: movement of intellectual property from foreign countries into China or vice versa.

Intellectual Property Rights: rights given to persons over the creations of their minds. They usually give the creators an exclusive ownership over the creation for a certain period of time, including copyrights and industrial property rights. Industrial property rights can further be divided into the rights of trademarks, patents, industrial designs, utility models and know-how.

Know-How: it is undisclosed information with commercial value, and the owners have lawful control of the information as secrets.

Licensing: owners of intellectual property rights sign licensing contracts with other parties to authorise them to use the rights in specific areas for a certain period of time by paying royalties.

Litigation: one of the dispute parties brings a lawsuit to a people's court in China for dispute resolution.

Mediation: parties in dispute resolve their problems through co-ordination by a third party.

Patents: the exclusive rights given to inventors or creators for their technological solutions relating to a product or a process, given for a certain period of time. In the case of China, the duration is 20 years from the date of application. Any other people must pay a royalty to the owner for the access of the invention or creation.

Technology Transfer: acquisition of technology by corporations, enterprises, organisations or individuals in China from any corporations, enterprises,

organisations or individuals outside China. The transfer may occur by trading, and via economic or technological co-operation. It usually includes intellectual property, managerial skills, and technology services.

Trademarks: right given to the owners of distinctive signs or symbols of a product. The duration is usually 10 years from the date of application, but renewable.

Utility Models: the exclusive rights given to inventors or creators for their minor technological solutions relating to a product or a process, given for a certain period of time. In China, the duration is 10 years from the date of application. It is also called petty patent because of its lower inventiveness compared to a patent.

Appendix E: Memorandum of Understanding Between the Government of the United States of America and the Government of the People's Republic of China on the Protection of Intellectual Property

In the spirit of co-operation embodied in their bilateral Agreement on Trade Relations and consistent with the principles of the relevant international agreements, the Government of the United States of America (US Government) and the Government of the People's Republic of China (Chinese Government) have reached a mutual understanding on the following provisions:

Article 1

- (1) The Chinese Government will provide the following levels of protection under the Patent Law of the People's Republic of China:
 - (a) Patent Subject Matter: Patents shall be available for all chemical inventions, including pharmaceuticals and agricultural chemicals, whether products or processes.
 - (b) Rights Conferred: A patent shall confer the right to prevent others not having the patent owners' consent from making, using, or selling the subject matter of the patent. In the case of a patented process, the patent shall confer the right to prevent others not having the patent owner's consent from using that process and from using, selling or importing the product obtained directly by that process.
 - (c) Term of Protection: The term of protection for a patent of invention will be 20 years from the date of filing of the patent application.
 - (d) Compulsory Licenses:
 - (i) Patent rights shall be enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.
 - (ii) Where China's law allows for use of the subject matter of a patent without the authorisation of the right holder, including use by the government or third parties authorised by the government, the following provisions shall be respected:
 - (1) authorisation of such use shall be considered on its individual merits;
 - (2) such use may only be permitted if, prior to such use, the proposed user has made efforts to obtain authorisation from the right holder on reasonable commercial terms and

conditions and that such efforts have not been successful within a reasonable period of time. This requirement may be waived by the government in the case of a national emergency or other circumstances of extreme urgency or in cases of public non-commercial use. In situations of national emergency or other circumstances or extreme urgency, the right holder shall, nevertheless, be notified as soon as reasonably practicable. In the case of public non-commercial use, where the government or contractor, without making a patent search, knows or has demonstrable grounds to know that a valid patent is or will be used by or for the government, the right holder shall be informed promptly;

- (3) the scope and duration of such use shall be limited to the purpose for which it was authorised;
- (4) such use shall be non-exclusive;
- (5) such use shall be non-assignable, except with that part of the enterprise or goodwill which enjoys such use;
- (6) any such use shall be authorised predominantly for the supply of China's domestic market;
- (7) authorisation of such use shall be liable, subject to adequate protection of the legitimate interests of the persons so authorised, to be terminated if and when the circumstances which led to it cease to exist and are unlikely to recur. The competent authority shall have the authority to review, upon motivated request, the continued existence of these circumstances;
- (8) the right holder shall be paid adequate remuneration in the circumstances of each case, taking into account the economic value of the authorisation;
- (9) the legal validity of any decision relating to the authorisation of such use shall be subject to judicial review or other independent review by a distinct higher authority;
- (10) any decision relating to the remuneration provided in respect of such use shall be subject to judicial review or other independent review by a distinct higher authority;
- (11) the conditions set forth in sub-paragraphs (2) and (6) above are not required to be applied where such use is permitted to remedy a practice determined after judicial or administrative process to be anti-competitive. The need to correct anti-competitive practices may be taken into account in

determining the amount of remuneration in such cases. Competent authorities shall have the authority to refuse termination of authorisation if and when the conditions which led to such authorisation are likely to recur;

- (12) where such use is authorised to permit the exploitation of a patent (“the second patent”) which cannot be exploited without infringing another patent (“the first patent”), the following additional conditions shall apply:
 - (A) the invention claimed in the second patent shall involve an important technical advance of considerable economic significance in relation to the invention claimed in the first patent;
 - (B) the owner of the first patent shall be entitled to a cross-license on reasonable terms to use the invention claimed in the second patent; and
 - (C) the use authorised in respect of the first patent shall be non-assignable except with the assignment of the second patent.
- (2) The Chinese Government will submit a bill to provide the levels of protection specified in subparagraph 1 of this Article to its legislative body and will exert its best efforts to have enacted and to implement the amended patent law by January 1, 1993.
- (3) Both Governments reaffirm their commitments to each other under the Paris Convention for the Protection of Industrial Property (Stockholm 1967) and their continued commitment to observe the principle of national treatment with respect to providing patent protection for the natural and legal persons of the other Party.
- (4) If the US Government becomes a party to an international convention that requires the United States to provide a patent term of at least 20 years from the date of filing of the patent application, the United States will amend its laws to satisfy this obligation.

Article 2

Both Governments reaffirm that the principle of territoriality and independence of patents with regard to protection of patents as provided in the Paris Convention for the Protection of Industrial Property should be respected.

The Chinese Government agrees to provide administrative protection to US pharmaceutical and agricultural chemical product inventions which:

- (i) were not subject to protection by exclusive rights prior to the amendment of current Chinese laws;
- (ii) are subject to an exclusive right to prohibit others from making, using or selling it in the United States which was granted after January 1, 1986 and before January 1, 1993;
- (iii) have not been marketed in China.

The owner of the exclusive right in the United States regarding such a product invention that meets the above requirements shall provide the competent Chinese authorities with an application for administrative protection including the following documents:

- (1) a copy of the certificate issued by the competent authorities of the United States granting such exclusive right;
- (2) a copy of the document issued by the competent authorities of the United States for the approval for manufacturing or sale of such product; and
- (3) a copy of a contract for the manufacture and/or sale entered into between the owner of the exclusive right and a Chinese legal person (including foreign capital enterprises, joint venture enterprises, or cooperative enterprises) with respect to the manufacture and/or sale of the product in China.

The competent Chinese authorities will, in accordance with published Chinese laws and regulations relating to obtaining manufacturing or marketing approval, examine such application. No special rules or additional requirements for approval will be imposed. After examination and approval, which shall occur promptly, a certificate for administrative protection, which will provide the right to manufacture or sell the subject product, will be issued to the person seeking such protection. The competent Chinese authorities will prohibit persons who have not obtained a certificate for administrative protection for manufacturing or selling the subject product during the term of administrative protection. The term of administrative protection begins from the date on which the certificate for administrative protection of the product is obtained and remains in force for seven years and six months. The above administrative protection will become available on January 1, 1993.

Article 3

- (1) The Chinese Government will accede to the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention) (Paris 1971).

The Chinese Government will submit a bill authorising accession to the Berne Convention to its legislative body by April 1, 1992 and will use its best efforts to have the bill enacted by June 30, 1992. Upon enactment of the authorising bill, the Chinese Government's instrument of accession to the Berne Convention will be submitted to the World Intellectual Property Organisation with accession to be effective by October 15, 1992.

- (2) The Chinese Government will accede to the Convention for the Protection of Producers of Phonograms Against Unauthorised Duplication of Their Phonograms (Geneva Convention) and submit a bill to its legislative body authorising accession by June 30, 1992. The Chinese Government will use its best efforts to have the bill enacted by February 1, 1993. The Chinese Government will deposit its instrument of ratification and the Convention will come into effect by June 1, 1993.
- (3) Upon China's accession to the Berne Convention and the Geneva Convention, these, Conventions will be international treaties within the meaning of Article 142 of the General Principles of the Civil Code of the People's Republic of China. In accordance with the provision of that Article, where there is an inconsistency between the provisions of the Berne Convention and the Geneva Convention on the one hand, and Chinese domestic law and regulations on the other hand, the international Conventions will prevail subject to the provisions to which China has declared a reservation, which is permitted by those Conventions.
- (4) In so far as China's copyright law and its implementing regulations are inconsistent with the Berne Convention, the Geneva Convention or this Memorandum of Understanding (MOU), the Chinese Government will issue new regulations to comply with these Conventions and the MOU by October 1, 1992. These new regulations will also clarify the existing regulations and in particular will explain that the exclusive right of distribution that applies to all works and sound recordings includes making copies available by rental and that this exclusive right survives the first sale of copies. Regulations implementing the Conventions and this MOU will prevail over regulations for domestic works where there is an inconsistency between the new regulations and existing regulations.

In addition to applying to works created by national of Berne Union members, these new regulations will apply to all works created in the context of a contractual relationship, joint venture, or commission from foreign capital enterprises, foreign joint venture enterprises, or cooperative enterprises in which such national, individually or jointly with others, are intended to be owners of copyright in the resulting works.

The Chinese Government will submit a bill to amend its copyright law to its legislative body and use its best efforts to have enacted and to implement this legislation within a reasonable period of time.

- (5) Both Governments will indicate the status of the Berne Convention and the Geneva Convention in their respective laws and notify judicial and administrative bodies responsible for the enforcement of the copyright law and regulations of the provisions of the Conventions within 30 days after signature of this MOU or 30 days after accession to each Convention, whichever is later.

Both Governments will publish and provide to each other copies of any guidance provided to administrative or judicial bodies regarding the administration or interpretation of any laws and regulations related to the implementation of the Conventions or this MOU no later than 30 days after such guidance is issued.

- (6) No later than the effective date of China's accession to the Berne Convention, the Chinese Government agrees to recognise and protect, computer programs as literary works under the Berne Convention, and consistent with the protection of computer programs and provide a term of 50 years.
- (7) After China's accession to the Berne Convention, all works originating in a member of the Berne Union that are not in the public domain in their country of origin will be protected in China.
- (i) With regard to any uses of an original or a copy of a US work on a commercial scale undertaken before establishment of bilateral copyright relations between China and the United States, there will be no liability.
- (ii) With regard to such uses undertaken after establishment of bilateral copyright relations, the provisions of the law and regulations will fully apply. With regards to a natural or legal person who owned and used a particular copy of a work for a particular purpose prior to establishment of bilateral copyright relations between China and the United States, that person may continue to make such use of that copy of the work without liability, provided that such copy is neither reproduced nor used in any manner that unreasonably prejudices the legitimate interests of the copyright owner of that work.
- (8) The principles of paragraph 7 above, including the limitations on liability, shall apply to sound recordings.
- (9) The Chinese Government will recognise this MOU as an agreement under Article 2 of the Copyright Law of the People's Republic of China which shall provide a basis for protection works, including computer programs,

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and sound recordings of US nationals published outside of China until such time as China accedes to the Berne Convention and the Geneva Convention. Such protection shall become effective 60 days after signature of this MOU.

Based on the commitments set forth in this MOU, the US Government will take necessary steps to secure to Chinese nationals and their works eligibility for protection under the copyright law of the United States which shall become effective no later than 60 days after signature of this MOU.

Article 4

- (1) For the purpose of ensuring effective protection against unfair competition as provided for in Article 10b of the Paris Convention for the Protection of Industrial Property, the Chinese Government will prevent trade secrets from being disclosed to, acquired by, or used by others without the consent of the trade secret owner in a manner contrary to honest commercial practices including the acquisition, use or disclosure of trade secrets by third parties who knew, or had reasonable grounds to know, that such practices were involved in their acquisition of such information.
- (2) The term of protection of trade secrets shall continue so long as the conditions for protection are met.
- (3) The competent authorities of the Chinese Government will submit the bill necessary to provide the levels of protection specified in this Article to its legislative body by July 1, 1993 and will exert its best efforts to enact and implement this bill before January 1, 1994.

Article 5

Both Governments will provide effective procedures and remedies to prevent or stop, internally and at their borders, infringement of intellectual property rights and to deter further infringement. In applying these procedures and remedies, both Governments will provide safeguards against abuse and shall avoid creating obstacles to legitimate trade.

Article 6

Both Governments agree, at the request of either Party, to consult promptly on matters relating to the protection and enforcement of intellectual property

rights, in particular with respect to the obligations of this MOU. Both Governments agree that the first consultations pursuant to this MOU will include discussions on the new implementing regulations for the Berne Conventions and this MOU and that these discussions will be taken into consideration in the drafting of the regulations.

Article 7

In recognition of the progress in improving the protection of intellectual property rights that the Chinese Government has made and of the further progress that will result from the steps that the Chinese Government has agreed to take, and in the expectation that these commitments will be fully implemented, the US Government will terminate the investigation initiated pursuant to the “Special 301” provisions of US trade law and China’s designation as a priority foreign country will be revoked effective on the state of signature of this MOU.

Signed in Washington, D. C., this seventeenth day of January, one thousand nine hundred and ninety-two, in two copies in the Chinese and English languages, both texts being equally authentic.

Appendix F: Agreed Minutes between China and EU (1)

Delegations of the Commission of the European Communities and the Government of the People's republic of China met in Beijing on 29 and 20 June 1992 in order to hold discussions within the framework of their bilateral Trade and Economic Co-operation Agreement.

The Chinese delegation declared that, in the spirit of co-operation on developing bilateral economic and trade relations, and consistent with the principles of the relevant international agreements, the administrative protection provided by the Chinese Government to US pharmaceutical and agricultural chemical product inventions stipulated in the Memorandum of Understanding between the Chinese Government and the US Government on the Protection of Intellectual Property signed on 17 January 1992, shall be applicable to pharmaceutical and agricultural chemical product inventions of the Community.

The Paris Convention for the Protection of Industrial Property establishes the principle of territoriality and independence of patents.

The Chinese Government agrees to provide administrative protection to the community's pharmaceutical and agricultural chemical product inventions which:

- (i) were not subject to protection by exclusive rights prior to the amendment of current Chinese laws;
- (ii) are subject to an exclusive right to prohibit others from making, using or selling it in a Member State of the Community which were granted after 1 January 1986 and before 1 January 1993;
- (iii) have not been marketed in China.

The owner of the exclusive right in a Member State of the Community regarding such a product invention that meets the above requirements shall provide the competent Chinese authorities with an application for administrative protection including the following documents:

- (1) a copy of the certificate issued by the competent authorities in the Community granting such exclusive right;

- (2) a copy of the document issued by the competent authorities in the Communities for the approval for manufacturing or sale of such product; and
- (3) a copy of a contract for the manufacture and/or sale entered into between the owner of the exclusive right and a Chinese legal person (including foreign capital enterprises, joint venture enterprises, or co-operative enterprises) with respect to the manufacture and or sale of the product in China.

The competent Chinese authorities will, in accordance with published Chinese laws and regulations relating to obtaining manufacturing or marketing approval, examine such application. No special rules or additional requirements for approval will be imposed. After examination and approval, which shall occur promptly, a certificate for administrative protection, which will provide the right to manufacture or sell the subject product, will be issued to the person seeking such protection. The competent Chinese authorities will prohibit persons who have not obtained a certificate for administrative protection from manufacturing or selling the subject product during the term of administrative protection. The term of administrative protection begins from the date on which the certificate for administrative protection of the product is obtained and remains in force for seven years and six months. The above administrative protection will become available on 1 January 1993.

Agreed Minutes between China and EU (2)

- (1) Representatives of the Government of China and of the European Commission met in Beijing on 5–7 April 1995 in order to hold discussions on a number of issues of concern to both parties with respect to the protection, enforcement and co-operation in the area of intellectual property rights.
- (2) They reconfirmed the importance of providing adequate and effective protection and enforcement of intellectual property rights to each others' nationals and to further enhance their co-operation thereon.
- (3) The Chinese representative stated that, in the spirit of co-operation of developing bilateral economic and trade relations, all provisions applicable to US individuals or entities from the exchange of letters of 26 February 1995 between Minister Wu Yi and Trade Representative Kantor (including its Annex) apply to individuals and entities from the EU.

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- (4) The Representative of the European Commission confirmed that in order to assist China to further improve its protection and enforcement of intellectual property rights the European Commission was prepared to increase significantly the level of assistance, including assistance for personnel training and documentation. This could also include mutually agreed assistance for equipment.
- (5) The Government of China and the European Commission will consult promptly at the request of either side with respect to any matter affecting the operation or the implementation of the above and exchange the necessary information. In addition, both sides agree to consult on request and on a regular basis.

Beijing, 7 April 1995

Mrs. Zhang Yuejiao
Ministry of Foreign Trade
and Economic Co-operation

Mogens Peter Carl
European Commission

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