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**INTELLECTUAL PROPERTY RIGHTS PROTECTION AND THE INFLOW
OF FOREIGN TECHNOLOGY AND DIRECT FOREIGN
INVESTMENT: THE BRAZILIAN CASE**

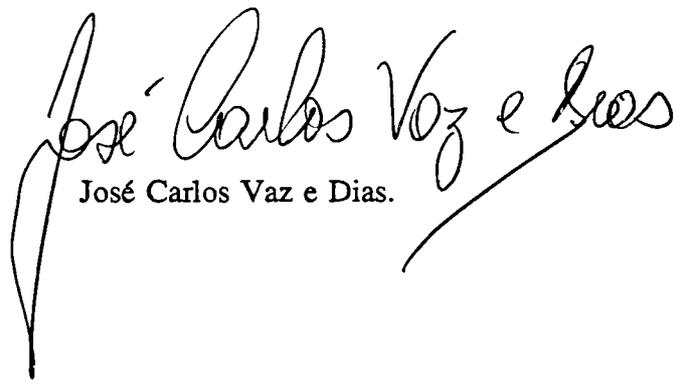
by

JOSE CARLOS VAZ E DIAS

*A Thesis Submitted to the University of Kent at Canterbury
for the Degree of Doctor of Philosophy
in Law*

Department of Law
University of Kent at Canterbury
England
August 1993

No part of this thesis has been submitted in support of an application for any degree or qualification of the University of Kent or another University or institute of learning.

A handwritten signature in black ink, written in a cursive style. The signature reads "José Carlos Vaz e Dias". Below the signature, the name "José Carlos Vaz e Dias." is printed in a simple, black, sans-serif font.

José Carlos Vaz e Dias.
José Carlos Vaz e Dias.

To my wife Ana Elisa Xavier de Oliveira e Dias,
the perfume of my life.

RISKS

To laugh is-to risk appearing the fool.

To reach out for another is-to risk involvement.

To place your ideas, your dreams before the crowd
is to risk their loss.

To love is-to risk not being loved in return.

To live is-to risk despair.

To try is-to risk failure

But risks must be taken, because the greatest
hazard in life is to risk nothing.

The person who risks nothing, does nothing, has nothing and is
nothing. He may avoid suffering and sorrow, but he simply cannot
learn, feel, change, grow, love-live.

Chained by his certitudes, he is a slave,
he has forfeited freedom.

Only a person who risks is free.

Unknown author.

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ABBREVIATIONS

ABBREVIATIONS

ABRABI	Associação Brasileira das Empresas de Biotecnologia
AC	Appeal Cases
BEFIEF	Comissão para Concessão de Benefícios Fiscais a Programas Especiais de Exportação
BNDE	National Bank of Economic Development
BPAI	Board of Patent Appeals and Interferences
CCC	The Customs Cooperation Council
CEXIM	Export-Import Department of the Banco do Brasil
CIEX	Commission of Export Programme
CNPq	Brazilian Scientific and Technological Council
COCOM	Co-ordinating Committee for Multilateral Export Countries
Co.Rep.	Coke' Reports
DNPI	National Department of Intellectual Property
D.O.U.	Diário Oficial da União
EIPR	European Intellectual Property Review
E.R.	English Reports
EPC	European Patent Convention
EPO	European Patent Office
FDA	Food and Drug Administration
FSR	Fleet Street Patent Law Reports
GATT	General Agreement on Tariff and Trade
GDP	Growth Domestic Product

GM	General Motors
IBGE	Brazilian Institute of Statistics
I.I.C.	International Review of Industrial Property and Copyright
INPI	National Institute of Intellectual Property
IPI	Imposto sobre Produto Industrializado
J.W.T.L.	Journal of World Trade Law
MERCOSUR	South American Southern Cone Common Market
MIP	Managing Intellectual Property
NAFTA	North American Free Trade Agreement
NIEO	New International Economic Order
N.Y.	New York
N.Y.S.	New York Supplement
OECD	Organization for Economic Cooperation and Development
Oj.EPO	Official Journal of the European Patent Office
PCI	Programme of Industrial Competitiveness
PCIE	Industrial and Foreign Trade Policy Programme
PCT	Patent Convention Treaty
PND	National Development Plan
PPA	Plant Patent Act
PTO	Patent and Trademark Office
PVPA	Plant Varieties Protection Act
PVR	Plant Variety System
R.P.C.	Reports of Patents, Design and Trade Mark Cases
SEI	Special Informatics Secretary
SCT	Scientific and Technological Secretary

TIBTEC	Trends in Biotechnology
TOT	Technology Transfer
TMR	Trade Mark Reporter
TRIPS	Trade Related Aspects of Intellectual Property Rights
U.K.	United Kingdom
U.N.	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UPOV	International Convention for the Protection of New Varieties of Plants
U.S.	United States
U.S.C.S.	United States Code Service
U.S.P.Q.	United States Patent Quarterly
U.S.T.R.	United States Trade Representative
WHO	World Health Organization
WIPO	World Intellectual Property Office
W.P.C.	Webster's Patent Cases

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ABSTRACT

ABSTRACT

Technology has existed throughout the history of mankind. Its importance lies in the fact it provides new and efficient methods of achieving results. It has contributed immensely to countries' economic development. The possibility of making productive factors (land, labour and capital) much more efficient, and of making industrial output grow faster than population's demand has made countries eager to acquire technology. One of the most successful instruments in attracting technology and influencing its creation has been the granting of patents. Nowadays, such rights are known as "intellectual property" (a term which comprehends designs, trademarks, copyrights etc.), and their importance has been in making it possible to secure proprietary rights in technology and in granting the inventor a monopoly on the commercialisation of the innovation. The success of patents in attracting technology has led most countries' governments to adopt similar measures.

Developing countries have also come to adopt an intellectual property rights system. However, the granting of proprietary rights in such countries are often more limited than in developed countries. This situation has made owners of technology aware of the risks involved in transferring their technological innovations and manufacturing operation to such countries. In this respect, there seems to be a contradiction between the desire of developing countries for technology and investment, and the inadequate protection afforded to intellectual property by them.

This thesis aims to show that there is a causal nexus between adequate intellectual property protection and greater inflow of technology and foreign direct investment into a market. Brazil will be the case study. It provides a good example due to its level of economic development and the size of its market. The protection it currently gives to intellectual property will be examined, and the evidence that inadequate protection for innovation has been an obstacle to technology and foreign direct investment.

INTRODUCTION

INTRODUCTION

The American magazine International Business Week recently published an article called "Global Innovation: Who's in the Lead?".¹ This article focuses on how technology has been an important element in determining a company's commercial competitiveness. Technological data has been replacing financial records as a means of evaluating a company's commercial performance and technological competitiveness. The fact that analysing patents of companies, or technology acquired by them, can determine a company's commercial competitiveness may lead to an understanding of how technological innovation has become an indispensable element for companies' commercial success.

The importance of technological innovation becomes even more obvious if one considers the international tendency towards market globalisation and the consequent fierce competition in the international market. As the world becomes smaller and smaller for business, domestic national markets open up to international competition. Moreover, as companies cross territorial barriers, they become more dependent on technology to survive.

In this scenario, technology or technological innovation can be an instrument to make production more efficient, to improve companies' competitiveness and to increase productivity. It can thus be a vital element to companies' supremacy in a market.

Furthermore, technological innovation has been regarded not only as an important asset for companies, but also as a significant factor in a country's economic development.

¹ The article focuses on the use of a technique called 'bibliometric'. This helps companies to assess their technological and commercial competitiveness. The technique studies the patents held by companies and their field of innovation and can help to assess companies' competitiveness. It can also allow companies to spot promising technological fields. It thus helps businessmen to plan acquisition and commercial partnership.

The article cites, as an example, the case of a detective who was hired by a consultant company to investigate a division of a chemical company. The objective of the investigation was to check the commercial and technological capabilities of the company. Instead of assessing the company's competitiveness through the study of financial records, the detective analysed data concerned with the companies' technology. See "Global Innovation: Who's in the Lead?", International Business Week, 10th August 1992 at pp. 48-49.

It can help to increase industrial output faster than a population's demand thereby being critical to the industrialisation process of countries. It can make productive factors (land, labour and capital) much more efficient, thereby increasing productivity and reducing production costs. It can provide efficient economic organisation, thereby reducing market imperfections resulting from information and transactions costs.² It can also promote social and cultural change within a society, creating great possibilities for the improvement of its standard of living.

The importance of technological innovation to economic growth has led countries to adopt measures that provide incentives for the creation and the inflow of innovations. Historically, one of the most important incentives to technological innovation has been the guarantee of technology ownership to the person who invented it. In addition, a monopoly has been granted to the inventor to commercialise the object of the invention for a determined period of time. The basic idea of guaranteeing property rights has been founded on the belief that property should be secured so that an inventor can use the object of his innovation, recover his initial investment and profit from it in exchange for the disclosure and commercialisation of the invention.

This incentive was first implemented by the English Crown during the 14th century as a deliberate policy to foster the inflow of foreign technology and to promote industrial development. The giving of monopoly property rights to inventors leading to the transfer of their technologies and production of goods in England is referred to as the granting of patents. This is seen as having been successful and beneficial to English economic development. It increased a greater inflow of foreign technology, investment and led to the establishment of industries in England. The positive results of a patent grant, as a policy for industrialisation and economic development, influenced other European countries

² Many economic historians believe that the inefficient use of productive factors and existing transaction costs are the main obstacles to economic growth. They believe the prosperity of the Western world was only possible when efficient economic organisation was achieved. One of the instruments adopted by them was the use of technology. See North, D. and Thomas, Robert P., *The Rise of the Western World: A New Economic History*, 1989 (Cambridge University Press, Cambridge).

to adopt similar instruments.

The role of patents in attracting technology and investment, and consequently improving the efficiency of production factors, has been regarded as a significant element in the formation of the existing economic development of the Western countries.³ Also, the institutional arrangement, elaborated to encourage innovation, and its inflow have created a new trend in economic development. As the Western countries' level of economic development correlates with the level their patent protection, it is believed that well defined intellectual property rights and their legal enforcement can foster investment and sustain economic growth.⁴

It is understood that by defining the limits and boundaries of property rights, individuals will be able to invest in new and more efficient methods that make production less costly and transactions more perfect.⁵ In this sense, in market economies, individuals will only engage in productive activities and in the improvement of economic organisation if there is a guarantee that private investment will deliver a return to them in the form of commercial profit. This means that the benefits acquired must be higher or at least equal to the investment.

In the case of intellectual property, individuals will, for the most part, invest in innovation and transfer their technology to an alien market, provided well defined property rights and adequate protection are secured. This is determined by the laws of the market in question.

In this respect, developing countries have also come to adopt a system of intellectual property rights. Nowadays this includes the protection of patents, trademarks, industrial designs and trade secrets. Intellectual property has been adopted as a strategy to influence the creation of innovation, to attract foreign technology and investment, thereby

³ *Id.* p. 1. See also Libecap, G., "Property Rights in Economic History: Implications for Research", [1986] 23 *Explorations in Economic History* at p. 227.

⁴ See Rapp, Richard T. and Rozek, Richard O., "The Benefits and Costs of Intellectual Property Protection in Developing Countries", [1990] 24 *J.W.T.L.* at p. 75.

⁵ See Libecap, *op. cit.* 3 at p. 228.

promoting economic development.

However, although technological innovation has been obtained mainly from foreign companies,⁶ adequate protection of property rights was originally assumed to be contrary to the industrialisation policy pursued by developing countries. In developing countries it was believed that the granting of protection to the use of technology would favour foreign companies and would therefore threaten the commercial existence of domestic enterprises. Consequently, the intellectual property rights granted by developing countries have been seen to be inadequate to investors and inventors. These laws have been regarded as of a lower standard than the ones available in developed countries.

In this respect, a basic contradiction seems to exist between the inadequate intellectual property protection given by developing countries and their desire to greater economic development. Companies in developed countries have invested massively in the development of technology. They have, as a result, acquired much of the world's new technology.⁷ Research and the development of technological innovations are costly, uncertain and time consuming. Investors and inventors need to have a guarantee that investment will produce a return. In addition, technology's indispensable role in obtaining a competitive edge in the international market has led companies to try to ensure that their ownership of rights in technology will be respected by competitors and third parties. This suggests that inventors and companies will not market their technologies in countries where they can be easily misappropriated. Nor will they transfer their technologies to companies in countries where technology is not protected.

As developing countries need to foster the inflow of foreign technology, inadequate protection for innovation can be an obstacle to such an inflow and to the desired economic development.

⁶ "Patent Scoreboard", International Business Week, 10th August 1992 at p. 50.

⁷ *Id.*

This situation, where adequate protection for innovation and investment is needed, suggests that there might be a causal nexus between adequate intellectual property protection and greater inflow of technology into a market. Consequently, it can also be inferred that ill-defined intellectual property rights can interfere with the desired economic advancement of developing countries.⁸

One of the most desirable ways of securing the inflow of technology is through foreign direct investment. This seems to be peculiarly attractive since it can provide developing countries with more than pure advanced technology. Foreign direct investment can bring along with it new industrial organisation and administrative techniques. It can ensure that innovation takes place in the locality, thereby generating tax revenues, creating employment and upgrading the quality of local labour. It can also influence the organisation of local firms that can supply inputs to those foreign companies.

A number of economists have shown that foreign investors have a preference for places where there is an appropriate environment for investment.⁹

This thesis addresses the increasing importance of intellectual property rights in international trade and their increasing role in the protection of companies' international competitiveness. It also assesses intellectual property protection as an element that significantly contributes to the organisation of an appropriate climate for investment.

The creation of a climate for domestic investment is a multifaceted and dynamic process. The several interrelated aspects can be classified into three main categories: (1) **Institutional Aspects.** These relate to the adequacy of the administrative institutions for initiating and operating investment in a country. They also include economic policies towards investment; (2) **Infrastructure Aspects.** These relate to the efficiency of physi-

⁸ See Rapp and Rozek, *op. cit.* 4 at p. 75.

⁹ Economists have found that during the 1980's there was a sharp decline in foreign investment in developing countries. They believe that a significant cause of this was the fact that the environment for investment's opportunity had deteriorated. See Shihata, Ibrahim F.I., "Factors Influencing the Inflow of Foreign Investments and the Relevance of a Multilateral Investment Guarantee Scheme" [1987] 21 *International Lawyer* at pp. 671-683. See also "Foreign Investment Changing Structure of World Economy", *Financial Times*, 9th April 1990 at p. 3.

cal facilities and human resources to receive foreign investment; and (3) **Legal Aspects**. These relate to the legal protection afforded and the level of property rights' enforcement.

In this thesis, the analysis of adequate intellectual property as an instrument to foster foreign direct investment will concentrate especially on the legal aspects related to investment. Nevertheless, as the above three categories are closely interrelated, institutional and infrastructural aspects will be analysed, albeit to a lesser extent. Detailed study and analysis of all aspects related to foreign direct investment are beyond the scope of this thesis.

Although this is a subject that can be applied to developing countries in general, Brazil, and its intellectual property Code (Law 5.772/71), and its technology transfer regulations will be used as a case study. There are three reasons for this:

Firstly, Brazil has been one of the few developing countries not at the margin of international politics and economic decisions. It desires to integrate with the group of the First World countries. Therefore, it has committed itself to industrialisation. Throughout Brazil's economic development, foreign direct investment has played an important role in providing technology and the industrial base for the country's economic development. Nowadays, there is a need to upgrade this economic development. Foreign investment has been regarded by the government as an indispensable element to achieve this.

Secondly, the Brazilian intellectual property Code seems to present a series of clear loopholes that weaken patents and allow for the legal misappropriation of technology. These loopholes show the Code's inadequacy to enhancing much needed foreign investment.

Thirdly, the Code contains a series of political and economic aspects that demonstrate contradictions between inadequate intellectual property rights afforded by developing countries and the need for the inflow of foreign investment.

Other aspects to be analysed in this thesis will be the assessment of the Brazilian government's responses to the pressure from foreign companies to improve the existing

intellectual protection and strengthen the rights of patentees. This first analysis leads to an evaluation of the government's efforts to secure proper protection and guarantee the inflow of foreign direct investment.

A detailed examination of how intellectual property has been, and might be, an important instrument in the Brazil's economic development is made in Chapter One of this thesis. This includes an overview of mainly two aspects (1) The historical development of the patent system and its influence on the industrial development of Western countries, focusing in particular on England. (2) An analysis of the intellectual property theories justifying protection for intellectual output and their influence on a country's governments' decisions to secure adequate intellectual property protection.

In the second chapter, the thesis will focus on analysing the allegedly harmful effects of the intellectual property system on developing countries' economic development, and the developing countries' response in order to prevent this impact. In addition, an analysis of the international consequences of developing countries' attitudes will be made. This will include an analysis of how this has influenced the present environment for foreign technology and foreign direct investment. Five main topics are involved in this analysis: (1) an examination of the alleged intellectual property system's alleged costs to developing countries; (2) a study of developing countries' reactions to the alleged limitations of the intellectual property system; (3) an examination of developing countries' requests for the revision of the Paris Convention; (4) an analysis of the UNC-TAD forum; (5) an analysis of the developed countries' responses to the inadequate protection to intellectual property adopted by developing countries. A special consideration will be made of the Uruguay Round.

As stated previously, Brazil's intellectual property Code and technology transfer regulations will be used as a case study in this thesis. The existing loopholes in the provisions of the Brazilian intellectual property Code, which can be a potential obstacle to the inflow of foreign investment will be studied in chapter four.

Three main provisions of the Code will be given special attention. Firstly, the existing regulation relating to technology transfer contracts will be considered. One interesting aspect of this analysis is the fact that the study will be concentrated on the previous regulation which was recently revoked. The importance of this regulation is the fact that it is still influencing technology contracts and the mentality of those who are in charge of formulating laws to attract foreign technology. Secondly, provisions relating to the protection of biotechnological inventions will be examined. Finally, an analysis will be made of the legal protection afforded to trademarks, especially foreign, well-known, trademarks.

By way of background, it will be necessary to describe some aspects of Brazil's economic development in the last 50 years and its dependency on foreign technology and investment. In particular, the main economic measures that have been taken to promote this development will have to be explored. A further aspect to be described and analysed is the existing infrastructure and development of biotechnology in Brazil.

In the fourth chapter, the government's recent economic policy and its proposal to upgrade its economic development will be examined. Special considerations will be given to the government's policy towards intellectual property protection. In relation to this, the new proposed rules on intellectual property and the draft bill being considered in the Brazilian Parliament will be examined.

The analysis of the draft bill will focus on six important points that can influence greater inflow of foreign investment: (1) the extension of patent grants; (2) the patent term validity; (3) the working requirements and their effect on the transfer of production to Brazil; (4) the rights of patentees; (5) the protection of trademarks; and (6) the INPI's (National Institute of Intellectual Property) role on regulating technology transfer.

The examination of the draft bill will be made by comparing its six main points with the related provisions of the recently enacted Mexican Intellectual Property law. This has been regarded as a model law by foreign companies and by the American government.¹⁰

¹⁰ "The Patent Pirates are Finally Walking the Plank", *International Business Week*, 10th February 1992 at p. 25.

It contains a number of innovations that can foster the inflow of investment. Moreover, Mexico has been a country known for its high economic protectionism and its distrust of foreign investors. Brazil is similar to Mexico in this aspect. The approval of a liberal law in Mexico can be regarded a breakthrough.

Finally, a summary of the data presented and the conclusions drawn from this research project as well as suggestions for further work in this field will be given in the Conclusion.

In summary, the aims of this project are to:

(1) assess how inadequate intellectual property protection can hamper the inflow of foreign technology and investment;

(2) analyse intellectual property rights as a significant element in fostering foreign direct investment;

(3) assess whether there exists a positive scene internationally for technology transfer and foreign direct investment;

(4) study the loopholes in Brazilian intellectual property law and how they interfere with the inflow of foreign direct investment;

(5) assess the Brazilian government's response to the existing domestic economic pressure to obtain foreign technology and investment, and to the foreign companies' pressure for improving Brazil's intellectual property protection;

(6) assess the possible success of the draft bill in enhancing foreign investment.

CHAPTER ONE

CHAPTER I

THE HISTORICAL DEVELOPMENT OF THE INTELLECTUAL PROPERTY SYSTEM, ITS JUSTIFICATION AND ITS IMPORTANCE FOR THE PROMOTION OF TECHNOLOGICAL INNOVATION

Since the 1980's, "intellectual property" has frequently been the subject of debate not only among lawyers, but also among economists, businessmen and politicians all over the world.

The discussion in this thesis does not concern itself primarily with either the harmful effects that the "intellectual property system" may have on the economies of developing countries or with the problems for the intellectual property system posed by the appearance of new technologies such as biotechnology, computer software and broadcasting.¹ Instead, it focuses on whether the protection of intellectual property helps to increase the flow of direct investment and the flow of technological information through technology transfer arrangements, and whether it is an important factor in economic development.

These questions are even more important if one considers that technology is playing an increasing role in the competitiveness of companies, in a country's market competitiveness and in the reallocation of creative and material resources. Developing countries

¹ Nevertheless, disagreement among lawyers involved in the development of new technologies is particularly noticeable when the depth of legal protection to be given to those new technologies is considered.

In Europe and the United States, exhaustive discussions have been carried out on the extension and adaptation of intellectual property rights to biotechnology inventions. It is believed that although it is possible to patent biotechnology products, many legal questions still affect the subject. See Barton, John, "Patenting life" [1991] 264 *Scientific American* at p. 18.

In relation to the economic effects of intellectual property on developing countries, one can observe debates in countries such as Argentina, Brazil and South Korea where inadequate protection still exists. In recent debates over the modification of the Brazilian intellectual property law, politicians seem not to understand the importance of granting patent protection to areas such as biotechnology and pharmaceuticals. See "Propriedade Industrial em Exame" (Industrial Property in Study), *Folha de Sao Paulo* (Brazilian Newspaper), 19th June 1991 at p. 8 and "Informatica Afastando Investidores" (Informatics Pushing Away Investors), *Gazeta Mercantil* (Brazilian Financial Newspaper), 22nd. May 1991 at p. 12. See also "Brazil to Open up Computer Market to Foreign Companies", *Financial Times*, 14th September 1990 at p. 9.

have been keen to seek higher industrial and economic development. They believe that technology can provide the tools for the desired economic growth.

Intellectual property has been included within the twelve points of discussion in the "Uruguay Round" of Multilateral Trade Negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT), as a world trade problem. This raises further questions about the degree of interaction between intellectual property and the greater inflow of technology and investment and the consequent economic development of a country.

In this Chapter, an examination will be made as to how intellectual property can be a key factor in the economic development of a country. Consequently, it will be possible to show the benefits that an intellectual property system brings to a country, especially if an appropriate system is adopted, and how these benefits, on the whole, outweigh the costs involved.

The development of intellectual property, its theory, its importance and the effects it has had on the economies of Europe since the fourteenth century will also be analysed. This analysis will be used to demonstrate that the legal protection of intellectual property induces the inflow of foreign technology, foreign direct investment and consequently promotes economic development.

1.1. The Importance of Technology to the History of Mankind and Its Influence on the Development of Trade During the Pre-capitalist Stage:

The creation of new methods and ways of using natural material resources, and the transformation of such resources into new products have occurred throughout history. Since the discovery of the wheel and the manipulation of clay to create vases and pots to carry water, men have shown that they possess creative powers to create things as a result

of observation and imagination.² The development of this creative power has been the key determinant of historical change, and led to the Industrial Revolution and the emergence of the present world economic order. If one analyses the development of technological innovation,³ in the context of the economic development of different historical periods, such as the medieval and the modern, one can see that technology has been important in the world's social, political and economic development. The possession of technology and the reasonable application of technical knowledge in the production sector is a significant factor in determining the level of economic growth and categorising countries according to their different economic and social development.

During Middle Ages, especially when new local markets were created and the market expanded throughout Western Europe, new technology was increasingly used and improvements were encouraged. The importance of technology was in the fact that technological improvements could make factors of production (land, labour and capital) much more efficient, thereby increasing productivity. This can be seen in the technical innovations of watermills and windmills and new techniques in the production of cloth.⁴ However, on the other hand, technological advances could not have taken place at that time if population density and inter-regional trade had not expanded.⁵ Thus, the expansion of commerce, the formation of centres where goods could be exchanged, the change in the institutional structure of the feudal system⁶ and the growth of international trade

² Kingston believes that the first requirement for an innovation is to have a powerful imagination. This will enable the inventor to keep his new idea and visualise its application in concrete terms (its shape, size and utility). See Kingston, William, *Innovation, Creativity and Law*, 1989 (Kluwer Academic Publishers, London) at pp. 23-24.

³ The meaning of the word technology is different from the word innovation. Innovation is any creation, development or diverse means to approach and use something (material, formulae, unknown sequence of thinking etc). "Innovation is the actual re-arrangement of the world which invention or discovery has made possible. Innovation thus straddles the worlds of mental and physical activity... and the work is much more concerned with the future than it is with the present". See Kingston, *Id.* at pp. 8-9.

The word technology, on the other hand, is understood to be as any method or technique in the form of goods or knowledge that can be used in practical terms. Technology, in this sense, would be the product of the union of diverse elements such as innovation, natural resources, or manufacture products, knowledge, technical skill.

According to the Greek dictionary, technology means "systematic treatment" meaning any application of technical knowledge.

However, in this thesis, the words technology, innovation and technological innovation will, for practical reasons, be used with the same meaning.

⁴ See North, D. C. and Thomas, P. T., *The Rise of the Western World: A New Economic History*, 1989 (Cambridge University Press, Cambridge) at p. 44 and pp. 58-59.

⁵ *Id.* p. 44.

⁶ The institutional changes were due to the economic changes and developments seen at that time in Western Europe.

between North and South European countries were fundamental in boosting new technological advances.

The influence of technology on the economic development of regions can be seen, during medieval times, in diverse regions such as Flanders, Picardy, Venice, Florence and Genoa, where an industrial, commercial and institutional infrastructure was formed,⁷ and where large scale production began to occur. The Low Countries formed a region where the industrial sector was one of the most advanced in Europe. Their industries did not concentrate solely on the production of textiles, but also included the production of glass, soaps and the extraction of salt. However, it was the textile sector which predominated.

The manufacture of woollen cloth was regarded as the principal activity in the Low Countries.⁸ The success of this industry was not only due to the highly organised guilds, the political influence of the governors in the area, and the area's geographical location.⁹ It was also due to the technology adopted, transferred and developed in that area. It is believed that the technology, including machines and know-how, used in the textile sector was first transferred to Northern Europe by the Italian traders and "inventors" who had obtained it from the Chinese and other Oriental cultures.¹⁰ The raw wool utilised for the production of cloth was imported mainly from Spain and England. This activity became so successful in the Low Countries that traders from other European countries would bring goods to this area to exchange them for cloth.

These affected the size and power of governmental units, and gave room to the emergence of the nation-state. Together with the presence of nation state, the administrative sector of the state also changed: taxation, justice (coercive power shifting from the private baron and more to nation-state), military protection and new philosophy toward property rights (land) were created. See *Id.* pp. 87-89.

⁷ In relation to institutional structures, one can say that in such countries, or at least in the Flemish region, institutional changes were important to economic development and to the rise of the area as a commercial trade leader. In the Flemish case, when the specialisation of activities in occupation guilds became more established, these guilds were highly specialised and commercially connected. This influenced the cloth industry which undercut costs and drove other regions out of competition. The production of textiles was performed by different guilds: One graded the wool, another cleaned it, another spined and sized the wool, the next wove the wool, then the wool would go to dyers.

At a later stage, from the fourteenth century onwards, the governors reduced the monopoly power of the guilds so that they could be prevented from imposing restrictive commercial and technological practices on the advancement of the industrial sector. *Id.* pp. 57-59 and pp. 132-133.

⁸ It was also the most important merchandise manufactured and traded in Northern Europe. The production centres were Northern Italy, Northern France, Flanders, Brabant, Holland and Eastern England. *Id.* p. 112.

⁹ *Id.* p. 50 and p. 58.

¹⁰ It is believed that it was Marco Polo who brought weaving technology to northern Italy from China.

The expansion of trade, the need to reduce transaction costs and to decrease market imperfections led the government of the Low Countries to allow the mobility of productive factors. An example was the permitting of foreign merchants and craftsman to transfer their special skills and trade in the region despite guild opposition. Also, it led the government to structure trade, laws and property rights.¹¹

1.2. The Patent System as a Policy to Induce Technology and to Foster Industrial Development:

Although England, at that time, was also an exporter of woven cloth, the greater efficiency of the Dutch textile industries depressed the less-developed English textile industry and forced it into decline.

In order to develop strong and efficient industries, especially the cloth industry, and to create others, such as glass-making, soap, ovens and furnaces, the English Crown adopted an industrial policy based on attracting foreign technology. By granting rights, privileges, licences and franchises, the Crown fostered the organisation of industries and business life in England. These rights and privileges were to be given to any foreigner on condition that the innovative technology would be applied in England and the activity would be established and taught to English apprentices.

By the middle of the fifteenth century, several foreign manufacturers had been granted rights and privileges, and had established their industries in England under the King's protection.¹² These included weavers, clock makers, manufacturers of silk,

¹¹ It is assumed that with economic advancement in the Low Countries and with the commitment to expand trade, new mechanisms were transferred to reduce the costs of using the market and to make the factors of production more efficient. A formation of a market organisation which could reduce market imperfections (customary trading practices were sanctioned by the government and creation of permanent markets) was established and allowed the transactions to be determined by the forces of supply and demand. A capital market was also created to allow small traders to participate in large ventures such as transcontinental trade. Furthermore, property rights on land and on tools were recognised and enforced. It is believed that the only property rights, at that time, encouraging economic development not efficiently created were for the protection of knowledge. See North and Thomas, *op. cit.* 4 at pp. 132-145 and p. 59.

inventors of new processes to extract salt and miners possessing new scientific forms to improve the mining activity. The textile industry gained most from this policy since in the fourteenth century a more consistent and competitive cloth industry had been established. Also, the Crown's policy had a positive impact on the economy of England. Manufactured goods were largely produced internally and imports could be reduced. Moreover, it significantly influenced the inflow of foreign technology and investment which were important to the development of an industrial and commercial infrastructure during the 16th and 17th centuries.

In 1331, the first patent privilege was granted.¹³ In England and other in European countries, however, the granting of patents for innovation could not be clearly distinguished from political privileges. By contrast, in Venice, a well developed system governing the granting of patents to inventors existed from 1474.¹⁴ Known as the "Statute of Inventors", this is regarded as the "first patent regulation" since it promised inventors of machines and methods, privileges for 10 years. Also the utility and novelty requirements were regarded as important.¹⁵ The creation of patent regulations and their legal development, was, for the purpose of acquiring technology, attracting new ideas and investment¹⁶ and was also leading to the establishment of industries capable of increasing trade in the various regions of Europe.

In England, it is reported that by the end of the sixteenth century a rapid industrial expansion could be seen and a better industrial and trade infrastructure was being developed. An important factor that contributed to this development is believed to have been

¹² "In 1337 these letters of patents were expressly confirmed by a statute framed for the protection of the new industry, cap. 5 of which enacts, that all clockworkers of strange bands which will come into England, Ireland, Wales and Scotland, and within the King's power, shall come safely and surely and shall be in the King's protection and safe-conduct to dwell in the same lands choosing where they will..." Hulme, E. W., "The History of the Patent System Under the Prerogative and Under Common Law" [1896] 12 *The Law Quarterly Review* at pp. 142-143.

¹³ The first patent privilege is believed to have been given to a Flemish weaver called John Kemp in 1331. *Id.* p. 142 and see also North and Thomas, *op. cit.* 4 at p. 153.

¹⁴ The system existent in Venice during the 15th century was called "Statute of Inventors".

¹⁵ Penrose, Edith, *The Economics of the International Patent System*, 1951 (The Johns Hopkins Press, Baltimore) at p. 2.

¹⁶ Investment in the form of ideas, equipment and the opportunity to have in one's country the production of certain products. This can be considered foreign direct investment.

the granting of patents which stimulated industries and technology inflow.¹⁷

In England, the system of the patent privileges given by the Crown to inventors changed after the popular outcry against the uncontrolled issue of letters of patents and the consequent rise in prices.¹⁸ This popular dissatisfaction reached its peak at the end of Elizabeth I's reign due to her excessive issue of monopolies, and resulted in the Proclamation on Monopolies. The subsequent decision of *Darcy v. Allen*¹⁹ (the Case of Monopolies), went against the Royal monopoly on the production, distribution and importation of playing cards. The main consequences of this was the separation of the patent monopoly from other royal privileges. In this case, the continuous availability of the patent system to inventors can be regarded as a recognition of the importance it had had in attracting technology to England;²⁰

"When any man by his own charge and industry, or by his own wit and invention doth bring any new trade into the realm or any engine tending to the furtherance of a trade that was never used before; and that for the good of the realm; in such cases the King may grant him a monopoly patent for some reasonable time, until the subjects may learn the same, in consideration of the good that he doth bring by his invention to the commonwealth."

¹⁷ North & Thomas, *op. cit.* 4 at pp. 150-155.

¹⁸ The letters of patent were issued in exchange for cash or in exchange for political powers. The rise in the number of privileges, increased the state expenditure and the value of the taxes due to be paid, thereby artificially increasing the prices of goods. Furthermore, the power of the privileges given by the Crown was so strong that the owners, in order to enforce their rights, could search premises, arrest people and levy fines on the spot. See Grubb, Phillip W., *Patents in Chemistry and Biotechnology*, 1986 (Clarendon Press, Oxford) at p. 7. In 1566, the issue of the license to Francis Berty for the making of salt is reported to have caused great local discontent due to the control and adoption of high prices in certain areas. Hulme, *op. cit.* 12 at p. 149.

¹⁹ See *Darcy v. Allen* [1602] 11 Co. Rep. at p. 846.

²⁰ Cited at Grubb, *op. cit.* 18 at p. 7 (taken from *Darcy v. Allen* 11 Co. Rep. at p. 846).

Furthermore, *Darcy v. Allen* shows the change occurring in England in favour of voluntary private groups. It also vindicates that the patent grant was being embedded in common law and was no longer dependant on royalty favour.

1.2.1. The Statute of Monopolies and the Patent System's Development and Its Alleged Contribution to the Industrial Revolution:

The events of 1601-1602 and the continuing issue of illegal monopoly privileges required the enactment of a statute specifically regulating the granting of patents for inventions. On 25 May 1624, the English Parliament enacted the Statute of Monopolies which became significant in the formation of the patent system in England and was to influence the laws of other countries.

Section 6 of the Statute of Monopolies stated:²¹

"Provided also and be it declared and enacted, that any declaration before mentioned shall not extend to any letters patent and grants of privilege for the term of fourteen years or under, hereafter to be made of the sole working or making of any manner of new manufacturers, which others at the time of making such letters patents and grants shall not use, so as also they be not contrary to the law nor mischievous to the State, by reallising pieces of commodities at home, or hurt of trade, or generally inconvenient. The said fourteen years to be accounted from the date of the first letters patents or grants of such privilege hereafter to be made, but that the same shall be of such force as they should be if this act had never been made and of none other."

Accordingly, the issue of letters of patents was conditional on the fulfilment of four requisites. Firstly, the invention (the product) had to be both new to and be worked in England. It seems that the purpose of this condition was the promotion of industrial development without the suppression of existing industries. This policy was already being followed before the enactment of the Statute. In 1589, a patent for making salt was

²¹ Cited in Penrose, *op. cit.* 15 at p. 7 (taken from 21 Jac. I, Cap. 3 A.D. 1623- 1624).

refused to German artisans by the English Crown on the ground that other salt privileges were already being granted for the making of salt from brine.²² Secondly, the grantee had to be the true and first inventor. The true inventor was not necessarily the first person to have invented the new product or method of manufacturing a product, but the first to introduce the invention to England. Thirdly, the invention could not be contrary to common law. Fourthly, it could not be detrimental to the state, not make prices rise or adversely affect trade. These exceptions can be regarded as anti-trust and anti-monopolistic measures. Accordingly, a new condition to the grant of a patent was set "*urgens necessitas, et evidens utilitas*".²³ Thus, the establishment of new industries could not be at the expense of consumers and traders.

The Statute of Monopolies was not only used as an attempt to curtail the Crown's abusive powers. But it was also a strong instrument in encouraging technology to England. It was also the first official declaration in English law that gave legal protection to intellectual property. With the existence of a Statute, modifications of the law according to technological needs were much easier to bring about.

Nevertheless, with the advancement of commercial activity throughout Europe during the eighteenth century, the development of a strong industrial sector in England and increasing competition in the market, the system which had developed under the Statute began to pose difficulties to inventors since it could neither keep up with the technological developments nor fulfil the needs of inventors for secure protection.²⁴ As observed by Wyndham Hulme,²⁵ the simplicity of the system developed by the Statute of Monopolies worked without posing great inconvenience during the seventeenth century so long as the monopoly granted by the Crown aimed at attracting foreign technology through the

²² MacLeod, Christine, *Inventing the Industrial Revolution- The English Patent System 1660-1800*, 1988 (Cambridge University Press, Cambridge) at p. 12.

²³ *Id.* p. 18.

²⁴ Dutton, H. I., *The Patent System and Inventive Activity During the Industrial Revolution: 1750-1852*, 1984 (Manchester University Press, Manchester) at pp. 34-51.

²⁵ Hulme, E. Wyndham, "On the Consideration of the Patent Grant, Past and Present" [1897] 13 *The Law Quarterly Review* at pp. 316- 317.

establishment of basic new industries. However, with economic social and technological developments, inventors started working along the same lines and sometimes with the same object. In this case, the Statute started creating difficulties for inventors.²⁶

Among the difficulties presented by the patent law during the eighteenth century, the high costs and the time consumed in patenting an invention should be recognised as being of primary importance.²⁷ The procedure required to obtain a patent at that time was established by the 1536 Clerks Act.²⁸ The nature of the patent procedure was regarded as obscure and unnecessary by the public. It is believed that a patent application had to pass through more than 10 offices before being granted.²⁹ According to Dickens's "The Poor Man's Tale of a Patent", there were 35 steps in the patent procedure.³⁰ Moreover, the granting of a patent could be opposed by anyone filing a caveat.³¹ This instrument could retard the granting of a patent by up to 6 months. Also, it increased the possibility of industrial espionage.³²

Because of such bureaucracy, it is believed that for the period 1750 to 1852, the reports, warrants, several signatures, bills and other aspects of the patent labyrinth could cost the applicant up to £100.³³ Adding the solicitor's advice and services, this could reach up to £400..FS *Id.*

Moreover, separate registration was required for England, Scotland and Ireland. This further burdened the pocket of the inventor.

²⁶ *Id.*

²⁷ MacLeod, *op. cit.* 22 at pp. 76-78

²⁸ Dutton, *op. cit.* 24 at p. 35.

²⁹ *Id.*

³⁰ According to Jeremy Phillips, although Dickens stated the existence of 35 steps in the patent procedure, readers trying to count them in the "The Poor Man's Tale of a Patent" are unlikely to reach the exact 35 steps. The reason is that Dickens's data was based on somebody's research who artificially separated the different stages in order to show the exaggerated bureaucracy of the patent system. One point to be noted is that those 35 steps do not consider the stages to be taken when a patent application was refused. See Phillips, Jeremy *Charles Dickens and the 'Poor Man's Tale of a Patent'*, 1984 (ESC Publishing Limited, Oxford) at pp. 8-9.

³¹ Anyone interested in new technological developments would file a caveat in the Patent Office so that if any patent sought corresponded with the invention briefly described, the person who filed the caveat would be notified and the patent application could be opposed. See Dutton, *op. cit.* 24 at p. 35.

³² *Id.*

³³ Phillips, *op. cit.* 30 at pp. 15-21.

Another serious problem for the inventor was the specification issue. As we have already seen, the granting of a patent to an inventor was conditional on the disclosure of the invention by the patentee to a limited number of tradesmen (the apprenticeship clause). This condition was of significant value to the spreading of knowledge in England and to the formation of a scientific and innovative mentality at that time. However, the advancement of capitalism and the consequent increase in competition were significant factors in influencing the spread of information to a wider number of people. Moreover, as we have said, during the eighteenth century, the patent system started being used by inventors working with the same material, in the same line of work and with the same objective. The simplicity of the system which did not require detailed patent specification is believed to have posed piracy problems, and uncertainties about patent validity.³⁴

The specification of a patent could be used to limit the scope of an invention thereby preventing inventors from hindering technological advancement by acquiring wider protection than needed. It could similarly be used to spread technical information in a more rational way. In relation to public information, the role of specification enrolment in the dissemination of information was further helped by the increasing use of plans and drawings in patent application after about 1741.³⁵

The acceptance of the specification requirement, which began to be adopted from 1711-1712 onwards,³⁶ was regarded as an important change in the relationship between the grantee and grantor, from a contract between the inventor and the Crown, to a "social contract" between the inventor and society in general.

³⁴ According to Hulme and Seaborne Davies, the enrolment of specification was first requested by grantees that saw specification as an instrument to assert their patent rights against third parties infringers. Nevertheless, other authors such as John Adams and Gwen Averley, believe that the Law Officer's, those who administered the system, played an important role in introducing the enrolment specifications due to their dissatisfaction with the dissemination of information about patents. For further discussion on the subject see Hulme, E. Wyndham, "On the History of Patent Law in the Seventeenth and Eighteenth Centuries" [1902] 18 *The Law Quarterly Review* at pp. 280-288. See also Adams, John and Averley, Gwen, "The Patent Specification. The Role of *Liardet v. Johnson*" [1986] 7 *Journal of Legal History* at pp. 158-162 and see MacLeod, *op. cit.* 22 at pp. 148-155.

³⁵ See Adams and Averley, *Id.* pp. 161-162.

³⁶ *Id.* pp. 158-159.

Nevertheless, the gradual changes seen in the patent system throughout the eighteenth century, especially in relation to specification, did not meet the needs of inventors who, more and more, needed to strengthen their position and recover the costs incurred in the development of the invention. Also, as we have seen, the bureaucracy in granting patents persisted throughout the eighteenth century. Dissatisfaction led to several modifications and reforms which culminated in the Patent Law Amendment Act of 1852. The Patent Designs and Trade Marks Act 1883 set up the modern UK Patent Office. It also introduced the following reforms: (1) the examination of patent applications for sufficiency of description was introduced; (2) patents could be revoked for lack of obviousness and inventive step; and (3) trials involving patents were held without the presence of juries.³⁷ These improvements in patent law were an attempt to balance two forces: the incentive to technical innovation and consequent prosperous economic development on the one hand, and the protection of public interest on the other.

Although the patent system in England presented some difficulties for inventors, who wanted to have their patent rights strengthened, it is believed that its presence was important for the industrial development of England during the seventeenth, eighteenth and nineteenth centuries.

Among the positive functions of the patent system, one can note its impact on the dismantling of the power of the guilds during the seventeenth century. The granting of patent privileges to immigrants owners of technology loosened the guilds' control on the industrial production of some manufactured goods. It also diversified the standard and quality of merchandise which had normally been set by the guilds.³⁸ Thereby, it increased competition in the market and freed commerce. Furthermore, patent monopolies weakened the limited communication of knowledge between the different guilds

³⁷ These modifications and others are regarded the beginning of the development of present and modern patent law, and its administration system. The process of examining the requirement of patentability and application requirements for a patent together with the administrative bureaucracy was organised in such a successful and flexible manner that they were not profoundly modified until the 1970's. See Cornish, W. R., *Intellectual Property : Patents, Copyrights, Trademarks and Allied Rights*, 1989 2nd. ed. (Sweet & Maxwell, London) at pp. 69-71.

³⁸ See MacLeod, *op. cit.* 22 at p. 34.

which had existed before.³⁹

The patent system continued to be used as a tool to attract new industries and foreign technology during the seventeenth century and first quarter of the eighteenth century. MacLeod⁴⁰ provides evidence that the granting of royal privileges to exploit an invention seems to have been an incentive for the steady influx of craftsmen and merchants from the Low Countries and France into England from 1675.⁴¹ It is strongly suggested that the existence of an institutional arrangement that could guarantee investment to an inventor, especially a foreign one, helped establish a hospitable climate for foreign investment.

Another important function of the patent system was its ability to secure property in an invention. With greater competition in the market, the advancement of strategic industries, such as coal, industries needing capital equipment (the iron industry, for example) and cotton spinning, became increasingly dependent on technological innovation.⁴² Thus, the value of inventions increased in the market. Fear of losing property in an invention increasingly became a major concern, particularly from the second quarter of the eighteenth century. Sir John Dalrymple, in explaining to the House of Commons in 1798, expressed the fear felt by inventors in creating new products or processes, stating:⁴³

"...Having been careless in talking of our contrivances, I was afraid that some person might steal out a patent against us, use it as a monopoly, and turn it into a restraint against the government itself."

With piracy being a real threat to innovation, and therefore to economic development, Lord Eldon advised inventors not to rely on even their own relatives.⁴⁴ They must discuss their inventions only after patent protection had been secured.

³⁹ *Id.* pp. 82-83.

⁴⁰ See MacLeod, *op. cit.* 22 at pp. 82-83.

⁴¹ Most of them were regarded as refugees due to political and religious reasons.

⁴² See Mathias, Peter, *The First Industrial Nation: An Economy History of Britain (1700-1914)*, 1969 (Charles Scribner's Sons, New York) at pp. 140-144.

⁴³ Cited at MacLeod, *op. cit.* 22 at p. 89 (Extracted from *Repertory of Arts*, 9 (1798) at pp. 87-96).

⁴⁴ *Id.* p. 147.

The patent system acted as an instrument to reduce market imperfections in England. By securing property rights to owners of inventions, pirating of technology could be avoided and higher expenditure on research and development of technical improvements could be recouped by the owner. Therefore, capital investment could be positively reallocated. This security assured that technical advancement could be used industrially to increase production efficiency.

With patent protection assuming a greater commercial value, legal remedies were created to stop illegal copying, and indemnity for losses became relatively easier to obtain.

The patent system was used by inventors and manufacturers to secure a place in the market to the detriment of competitors. By having the exclusive right to introduce goods into the market, manufacturers could create satisfactory conditions for production without competition. This possibility was opened to and used by any patentee towards the end of the 18th century after new methods of trading were established and more centralised and more competitive industries were formed.⁴⁵

If new technologies and the support of the patent system were important for the development of the Industrial Revolution, the same economic advancement facilitated the use of this system. Among the principal influences were the improvement of transport which eased access to London to seek patent protection;⁴⁶ the creation of specialised journals and newspapers which spread information about the development of technology to the public; and the emergence of a consuming society which valued new products and marks.⁴⁷

⁴⁵ *Id.* p. 93.

⁴⁶ *Id.* p. 146.

⁴⁷ *Id.* p. 147.

Another important effect of economic development on the patent system was the creation of new conceptions for exploiting the creative product of an inventor. Thus, an invention was regarded as a piece of alienable property which could be bought, transmitted, divided into shares, licensed or even sold.⁴⁸ This new development in patents was important in encouraging hesitant and unsponsored inventors to put their creation into practice.⁴⁹

Moreover, the economic changes which occurred during the pre- Industrial Revolution and the Industrial Revolution period made the market more and more impersonal. It allowed production to be concentrated in larger units. The need to sell made advertising a powerful tool to attract consumers. Together with this, a large number of trademarks appeared to identify the source of products sold in the market.⁵⁰

For this reason, trademarks started assuming a growing importance in society.⁵¹ By giving the information to the public about the place a product was manufactured, trademarks could provide the public with an instrument of quality-choice among different goods. They also provided manufacturers and traders with the opportunity to obtain goodwill and therefore increase production and sales.

The beneficial results outlined above can justify the existence of the patent system during the eighteenth and nineteenth centuries despite the costs and persistent bureaucracy. As has already been mentioned, a company or country, eager to obtain economic

⁴⁸ *Id.* p. 89.

⁴⁹ The granting of patent could be used as a good reference for people interested in entering into partnership and in guaranteeing financing. John Watt was frequently financed by different people who gave him the necessary quantities of money to fund the creation and the development of his inventions in exchange for a share of the invention patented. *Id.* pp. 89-90.

⁵⁰ Gradually, trademark protection began to serve not only as an information guide about the source of goods but also as a quality guarantee. See Diamond, Sidney A., "The Historical Development of Trademarks" 65 *Trademark Reporter* at pp. 280-287.

⁵¹ Literary works and design also played an increasingly positive role in society at that time. In the case of literary works, their importance lay in the fact that they were sources of entertainment and scientific information. In the case of design, textile designers played an important role in innovating the appearance of goods, especially clothes. During the Great Exhibition of 1851, a need to protect what was aesthetically valuable was realised by the owners. Accordingly, plagiarism was looked upon as a harmful activity for designs. Industrialists, especially clothes manufacturers, before investing large amounts of money in a production line, wanted assurances that their ideas (in the form of designs) would not be used by others. See Jeremy, Phillips and Firth, Alison, *Introduction to Intellectual Property Law*, 1990 2nd. ed. (Butterworths, London) at pp. 286-287.

growth has to allow production factors to work efficiently so that production increases at a higher rate than the market demands and that capital is not wasted. This was achieved in England during the period prior to the Industrial Revolution due to the existence of an incentive for new technologies and the application of capital in production⁵² which could increase productivity and foster a surging economy of scale.

A positive strategy in promoting this economic efficiency was the continuity and development of the existing patent system.

1.2.2 The Development of Patent Law in Europe and in the United States:

The development of patent law during the eighteenth and nineteenth centuries did not take place only in England. Rather, the positive results obtained there through the adoption of strict rules regarding intellectual property were emulated all over Europe. They had a strong influence on the development of intellectual property law in the United States.

Although their patent system's development commenced later than in England, at the end of the eighteenth century the French not only affirmed the need to encourage technological advancement, but also declared the right of property in inventions to be an absolute right, like the property in a piece of land or of the tools of work.⁵³

⁵² See Mathias, *op. cit.* 42 at pp. 134-151.

⁵³ Another important development in French intellectual property law was the adoption of a system of trademark registration in 1857. *Id.* at p. 393. The use of the registration of trademarks provided an alternative to the system existing in Britain at that time. The "common law" system provided the trademark owners with two means of defence against trademark misappropriation. The first was the "passing off" action, and the second the "equitable" action for infringement. Although the introduction of the registration system did not create any special action for infringement, since the "equitable" action had existed previously, it did strengthen the rights of trademark owners by providing a formal system for recognising ownership. Also, time and money could be saved by the simple fact that the first registrant, not the first user, owned a trademark. For further studies on the development of the registration system and its difference with the "common law" system see Beier, F., "Basic Features of Anglo-American, French and German Trademark Law" [1975] 6 ICC at pp. 295-298. See also Wadlow, Christopher, *The Law of Passing Off*, 1990 (Sweet & Maxwell, London) at pp. 11-18 and White, T.A. Blanco and Jacob, Robin, *Kerly's Law of Trade Marks and Trade Names*, 1972 (Sweet & Maxwell, London) at pp. 4-5.

In the United States, the decisive step towards protecting an inventor's rights took place in 1793 when Congress enacted a Federal patent law. This enactment was the result of the highly influential ideas of natural law developed during the French Revolution. As in France, the American legislation laid down the property rights which an inventor had over his creation. This recognition aimed to strengthen the inventor's position and promote the industrial development of the country.⁵⁴

The Constitution of the United States, ratified in 1788, provided ultimate support for strengthening an inventor's activity and promoting a real scientific policy. According to Art. I, section 8, clause 8:⁵⁵

"The Congress shall have power... to promote the progress of science and useful arts, by securing for limited time to authors and inventors the exclusive right to their respective writings and discoveries."

This constitutional declaration highlighted the theory that new scientific and technological developments are closely related to the strength of property rights of authors. In recognising this, the American constitution helped encourage scientists to increase their scientific activities so that America could catch up with the economic and technological developments taking place at that time in Europe, especially in England.

Another interesting aspect of American patent law, and the American Constitution, was that the inventor alone could have his patent granted by the state.⁵⁶ Neither an assignee nor an inventor's financial supporter could acquire patent protection. This point seems to be extremely important to American patent law philosophy, since it guarantees the reward of discovering a new product to the first true inventor. Furthermore, the Constitution supports the theory that by securing property rights and high benefits for

⁵⁴ See Beier, F. and Strauss, J., "The Patent System and its Information Function- Yesterday and Today" [1977] 8 IIC at pp. 390-391.

⁵⁵ See *Constitution of the United States of America- Revised and Annotated* 1963.

⁵⁶ See Grubb, *op. cit* 18 at p. 14.

someone to create something (private benefits), it increases the probability of individuals undertaking inventive activities. Independent inventions are believed to have helped to influence the economic development of the United States since the 18th century.⁵⁷ Also, the "first to invent" system is believed to have had positive effect on the flow and share of ideas in the United States.

After the creation of the modern patent system in the United States, American law developed rapidly. One example of this was the creation and organisation of the Patent Office in 1836 charged with examining applications for patents. In England, only in 1883 did the Patent Office replace the Commissioners of 1852 and start to assess applications.⁵⁸

The nineteenth century in Europe was a very active economic period. European countries committed to matching English economic prosperity, began to adopt an economic policy favourable to industrial growth. Thus, following the success of the English intellectual property experience and the French and American constitutional declarations in favour of securing exclusive property rights to inventors and authors, the Prussians in 1815, Netherlands in 1817, Spain in 1820, Bavaria in 1816, Sweden in 1834, and Portugal in 1837 all adopted similar policies and intellectual property systems which included a patent system.⁵⁹

⁵⁷ This reason can be considered important for the maintenance of the first to invent philosophy. However, recently in April 1992, a proposal has been made in Congress to adopt the first-to-file system as Japan and the European countries do. It is believed that this approach will assure that new ideas enter into the "technological storehouse" quickly. It also prevents expensive court disputes on patent ownership. It has been reported that interference proceedings which went to trial have taken 25 to 30 years to be decided. Furthermore, it helps harmonise the world patent system. See *Harmonisation of US and European Patent Law*. Transcript of Seminar Held on 9th December 1992 at the Institute of Advanced Legal Studies, 1993 (Common Law Institute of Intellectual Property, London). See also "American Inventors are Reinventing Themselves", *International Business Week*, 18th January 1993 at pp. 48-51.

⁵⁸ See Cornish, *op. cit.* 37 at p. 70.

⁵⁹ See Penrose, *op. cit.* 15 at p. 15.

1.3 The Anti-Patent Movement in the Nineteenth Century and the Defense of the Patent Advocates: the "Justifying Theories":

Nevertheless, increasing industrial and trade growth, and the growing economic interdependence of countries in Europe also provoked a wave of frenetic trade liberalisation.⁶⁰ In their desire to abolish all forms of protectionism and monopolistic economic policies, leaders of the free trade movement accused the patent system of having restrictive effects on international free trade. It was argued that the monopoly given to an inventor to exploit his invention (product or process) hindered trade in the sense that others could not use the invention freely.⁶¹

The movement against the patent system was particularly strong in European countries such as Germany, Switzerland and Holland. The existence of this movement coincided with requests to strengthen the patent systems in England and France, with pressure on Germany and Switzerland to enact patent laws, and the beginning of the movement towards uniform international trade regulations.⁶² This was, however, met with opposition from the free traders. In Holland, the debate ended with the abolition of patent law in 1869.⁶³

The free trade movement's action against the patent system brought to the fore diverse theories justifying the existence of the patent system. Opponents of the patent system during the nineteenth century maintained that it had an adverse impact on free trade. It was thus, necessary for advocates of the patent system to separate the idea of free trade from the monopoly character of patent law. Thus, "justifying theories" were developed in

⁶⁰ *Id.* pp. 14-15.

⁶¹ Another argument was that the high level of economic development in Europe, especially in England, showed the self-sufficiency of the economic system in relation to the patent system. Industries could compete without the need for special privileges. See Dutton, *op. cit.* 24 at pp. 24-25.

Other arguments are based on the criticism on the patent system's bureaucracy and costs created to an inventor.

⁶² See Penrose, *op. cit.* 15 at pp. 14-17 and pp. 42-48.

⁶³ The Dutch repealed its patent law as adopted in 1817. Its reenactment took place only in 1910. *Id.* p. 15.

opposition to the free traders' arguments.⁶⁴ These "justifying theories" helped to show the positive impact the patent system was having on countries' economies. Consequently, arguments were formulated advocating the creation of international regulations for the protection of intellectual property, and for strengthening patentee's rights.

The "justifying theories" for intellectual property can be divided into four. According to Penrose,⁶⁵ the four theories can then be separated into two distinct groups. The first one is related to the direct private benefits of the patent system to the inventor. The second group concerns the patent system is direct social and economic benefits.

1.3.1. The Private Benefit Arguments For The Patent System:

The private benefits group of theories states that the more protection and rewards given to the inventor, the more he is encouraged to create. This group is comprised of:

1.3.1.1. The Natural Property Rights Theory:

According to this theory, the inventor's right of property in his invention is a natural right. Thus, the right of property accorded to the inventor is regarded as similar to the right of property in material things and the right to live. That is, all these rights are naturally inherent to the human character and human life.

Accordingly, the law does not need to create the inventor's right of property in his own ideas since this right exists in nature. Nevertheless, society, expressed in the form of laws and regulations, is morally obliged to regulate it⁶⁶ so that the appropriation of a

⁶⁴ See Machlup, F. and Penrose, E., "The Patent Controversy in the Nineteenth Century" [1950] 10 *Journal of Economic History* at pp. 9-10.

⁶⁵ See Penrose, *op. cit.* 15 at pp. 19-21.

⁶⁶ "The right of inventors and of industrial creators over their work, or of manufacturers and business men over their

person's ideas by another does not occur. In this sense, illegal appropriation of one's invention is condemned as theft or piracy, and is treated as seriously as taking the life of a person.

The "natural law theory" of intellectual property was not solely a French phenomenon.⁶⁷ It was part of the development of the whole natural law theory during the seventeenth and eighteenth centuries that justified real or personal property. Nevertheless, the "natural law theory" was developed during the French Revolution as a means of reducing the Royal right to intervene in private affairs (even if necessitated by public and social need) and to affirm individual rights such as the right of individual property.

The "natural law theory" became widespread and had strong support in France. It was considered as a principle by the French Constitutional Assembly when enacting the patent law of 1791.⁶⁸

"... every novel idea whose realisation or development can become useful to society belongs primarily to him who conceived it, and it would be a violation of the rights of man in their very essence if an industrial invention were not regarded as the property of its creation."

The counterattack of the free trade movement's advocates and others that considered as absurd the "natural property rights" theory, was based mainly on three arguments. Firstly, it was argued that in order to admit the "natural rights of property in inventions", one has to accept the idea that property is a natural right and not an institutional arrangement provided by society.⁶⁹ Furthermore, property rights as a state creation should be conditioned to social requirements which the patent system was not believed to fulfil.⁷⁰

marks is a right of property: The civil law does not create it, it only regulates it." Text quoted in footnote n.8 in Penrose, *Id.* p. 22.(Extracted from *Congres International de la Propriete Industrielle tenu a Paris du 5 au 17 Septembre 1878, Comptes Rendu Stenographiques*, at p. 250).

⁶⁷ It owes much to Kant for example.

⁶⁸ Statement found in the preamble of the Patent Law of January 7, 1791. Text quoted in footnote in Penrose, *Id.* p. 21.

⁶⁹ *Id.* p. 22.

⁷⁰ Statement of the leading German free trade economist Prince-Smith. See Machlup and Penrose, *op. cit.* 64 at p. 15.

"Any claim for protection of private property is a demand for the intervention of the power of the state, which should follow exclusively the dictate of common welfare. With regard to property in things the dictate of common welfare is firmly established. How is it with regard to the so called intellectual property and, above all, patents of invention?... [Patents are] injurious to the progress of production and to the common welfare and, thus, illegitimate in the light of the principle of property rights."⁷¹

The second argument was to question how inventions could be a property right if the subject of such rights could be limited in time and space, and the creation could not be shared by others. Property in material things means that the thing in question should be solely under the possession of the owner. For example, the owner of a piece of land has the right to exclude others to use his property. In the case of ideas, once someone shares them with others, by publishing or creating a new product, he automatically loses the exclusivity over them since he can no longer control his ideas.⁷² Furthermore, according to the legal theory of property, property rights in material *things* are limitless in space and time since the proprietor has exclusive rights over them. In the case of inventions, this is not normally true since property rights are given for a limited period of time only. After this period an invention is regarded as being in the public domain. Therefore, the theory of property rights (absolute dominion) is not appropriate to property in inventions.

The third point which was made was that intrinsic elements of the material property theory such as occupation, possession, control, appropriation, restitution could not be applicable to products of the mind.⁷³

In addition, a major difficulty was that during the nineteenth century, lawyers, economists and judges viewed property ideally as an absolute dominion over things. It was inconceivable that someone could have property in technological innovation that

⁷¹ *Id.*

⁷² "Property in ideas, once published, is an insoluble contradiction. [The owner] complaint that something has been stolen which he still possesses and he wants back something which, if given to him a thousand times, would add nothing to his possession". Statement of Herman Rentzsch quoted in footnotes n. 8 of Penrose, *op. cit.* 15 at p. 23.

Moreover, as inventors created something out of their experiences and others' ideas, they cannot claim exclusive property rights on the creation. A product of the mind, in this case, is looked upon as common property. *Id.*

⁷³ See Machlup and Penrose, *op. cit.* 64 at p. 12.

sometimes was a method or a process, or was represented by a formula.⁷⁴ Also, it was unthinkable that someone could be a proprietor of an intangible form of wealth such as a trademark.

The physical and absolute conception of property had a significant impact in defining strict property rights in land and goods. This consequently led to a more efficient use of property, especially land, from the 16th to the 18th century.⁷⁵

Nevertheless, the economic development during the eighteenth and nineteenth centuries created, and gave rise to, many legal institutions such as the business goodwill of a company and intellectual property rights.⁷⁶ Alongside the need to recognise property rights in new economic and legal institutions, the physicalist conception of property was losing ground to a new legal conception thereof.

The dephysicalisation of property in the Anglo-American legal system was led by the courts. These, by advocating the theory of natural law or the conception of public policy, sought to increase protection to valuable interests even though they were not physical things.⁷⁷

A clear example of this was the tendency to conceive goodwill as a consequence of the success of a company and as property.⁷⁸ Accordingly, the courts held that goodwill

⁷⁴ See Vanderverde, Kenneth J., "The New Property of the Nineteenth Century: The Development of the Modern Concept of Property" [1980] 29 Buffalo Law Review at pp. 328-333.

⁷⁵ See North and Thomas, *op. cit.* 4 at pp. 132-145.

⁷⁶ *Id.* pp. 328-345.

⁷⁷ *Id.* p. 329.

⁷⁸ Trademarks can also be regarded as an example. Although trademark protection against illegal imitation was requested and has been given since the eighteenth century, courts required proof of deliberate fraud. The view that trademarks would be protected only from fraudulent appropriation was clear in the case *Singleton v. Boulton* [1783] 99 Eng. Rep. 661 where Lord Mansfield refused to protect the trademark of the defendant since the defendant sold medicine under the inventor's name not the plaintiff's name. Therefore, the defendant's use of the inventor's mark was not actionable for fraud.

Mansfield's court notebooks contain actions regarding the illegal use and imitation of the plaintiff's trademark. In some of them, damage were awarded to the plaintiff. See Adams, John, "Intellectual Property Cases in Lord Mansfield's Court Notebooks" [1987] 8 Journal of Legal History at pp. 22-24.

But, later, during the 19th century, courts were already prepared to consider a trademark as an absolute right of the owner. In the case *Millington v. Fox* [1838] 40 Eng. Rep. 956 Lord Chancellor granted a perpetual injunction to prevent a tradesman from using a trademark of another, although there was no intention to deceive. Also, the third party, in using the trademark, seemed to be unaware that the mark was already a private property.

The English court's new approach to trademark protection opened possibilities for the development of trademark law in the United States. There, in the middle of the 19th century, a trademark theory was being formed. An example is the fact that for a trademark to be protected it should be distinctive and not be a geographic name, generic name or non-descriptive. See *Delaware & Hudson Canal Co. v. Clark* [1871] 13 U.S. (Wall) 311 and pp. 323-324. For further discussions on the recognition of trademarks as property see Cornish, *op. cit.* 38 at pp. 392-394 and Vanderverde, *op. cit.* 78 at pp. 342-348.

was closely and inseparably related to the location of a business. In *Crutwell v. Lye*,⁷⁹ Lord Eldon reaffirmed this belief that goodwill was "nothing more than the probability, that the old customers will resort to the old place".

Gradually, judges began to hold that goodwill was a phenomenon independent of the place or location of business and was linked more to the the success of the name of a company. In *Washburn v. National Wallpaper Co.*⁸⁰ the court observed that a firm could keep its goodwill even though its location had moved to a different place. But, it was only in the case of *Brett v. Ebel*⁸¹ that the courts finally affirmed that goodwill was not a right linked inextricably to a particular company. The Court, in this case, permitted the transference of goodwill from one person to another, although no material objects were part of the transference.

The theory that supported goodwill as an intangible form of wealth sought to abstract the idea of physical things by focusing the discussion on the general nature of the legal institution.⁸²

In the French Civil Law system, the conception of dephysicalisation started with the French Revolution where property in trademarks was regarded as a tool to prevent confusion and the criminal activities of counterfeiting and simulating trademarks were prohibited.⁸³

See also Diamond, *op. cit.* 50 at pp. 287-290.

⁷⁹ *Crutwell v Lye* [1810] 34 Eng. Rep. 129.

⁸⁰ *Washburn v. National Wallpaper Co.* [1897] 81 F. (2d. Cir) 17.

⁸¹ *Brett v. Ebel* [1889] 51 N.Y.S. (1st. Dept) 573.

⁸² Vanderverde, *op. cit* 78 at pp. 336-337.

⁸³ See Beier, *op. cit.* 57 at pp. 294-295.

French law, after the French Revolution, recognised that value could also exist in intangibles, not only things. Trademarks were protected against infringement under art. 1382 Civil Code.⁸⁴

As far as patents were concerned, although the natural law theory was widespread during the nineteenth century, during the third quarter of the same century the free trade movement was able to weaken the arguments for patents by combatting the natural theory justification. The immediate result was the abandonment of this theory by the patent system's defenders who then concentrated on the "reward by monopoly theory".⁸⁵

1.3.1.2. The Reward by Monopoly Theory:

This theory rests on the argument that inventors should be rewarded for their creation and for the presentation of their invention to the community. In consideration for this, society should provide adequate remuneration to the inventor as a moral obligation, in accordance with the invention's usefulness to the community as a whole.⁸⁶ This theory was frequently used by the defenders of the patent system when the natural law theory was criticised. Defenders of this theory argued that inventors need to be well compensated for their work. This was a question of justice. The importance of the patent system as an instrument to reward the inventor is based on two considerations:

⁸⁴ The decrees of 1803 and 1809 provided separate penalties for the misuse of trademarks. There was a civil and a criminal procedure with pecuniary and jail sentences as penalties. *Id.*

⁸⁵ See Machlup and Penrose, *op. cit.* 64 at pp. 17-21.

⁸⁶ According to Penrose, this theory is primarily based on the concept of natural rights. Its difference lies on the economic consequences of the patent system defended by its advocates. See Penrose, *op. cit.* 15 at p. 26.

1.3.1.2.1 Efficiency of the Patent System:

The patent system is the most efficient way of government intervention to guarantee adequate protection to inventors. It is an institution that can grant and properly remunerate the inventor.

An alternative way to secure protection and give reward to inventors, proposed during the 19th century, was the granting of bonuses and the distribution of prizes to inventors.⁸⁷ This policy is nowadays encouraged by international organisations such as WIPO (World Intellectual Property Office) and private companies. These bonuses were supposed to be given by four types of institutions:⁸⁸ the government; professional organisations; intergovernmental agencies; and private international organisations founded by industries.

Although the idea of granting bonuses and prizes is valuable, since it rewards inventors for their work, it does not meet the needs of inventors, particularly today. It does not guarantee to the inventor the possibility of exploiting his innovative idea without it being misappropriated and copied by third parties. Furthermore, it does not necessarily provide an adequate reward for the services rendered.

The above point is made all the more important by the fact that nowadays companies invest large amounts of money in order to create a technological innovation that will increase the company's competitiveness. Industries need to recover their investment expenditure on new developments and profit therefrom, in order that research may continue. Therefore, the bonuses and prizes systems are not insufficiently adequate to provide the reward and profit required by inventors (and investors).

⁸⁷ Nevertheless, recognition of this way of rewarding inventors has been used alongside the patent system. The reward bonuses policy is applied more as a means of individual academic promotion/recognition to inventors.

⁸⁸ See Machlup and Penrose, *op. cit.* 64 at pp. 19-21.

The efficiency of the patent system to reward inventors can be explained in two ways. Firstly, the patent system provides an inventor with the possibility of exploiting his creation in the market. By doing this, an inventor can control a market by selling a product and establishing its price according to his needs. The final result is a possible fair return on the investment made.

Market control can, however, also create harmful and negative consequences to the market. A monopoly can create a scarcity of goods. It can provoke trade restrictions because it prevents other companies selling. Also, it can provide a patentee with the power to control the price and quality of goods.⁸⁹

The negative effects of this system are also felt by other inventors in the sense that the patent system rewards one inventor among others not by the degree of work done but by chance: the first-to-file or to invent is the first to be granted the patent. Moreover, developments and improvements to inventions are more costly and time consuming since the improver may need to obtain permission from the owner (patentee) to use his product for further research.

Another point which can be added to the criticism of the reward theory is the definition of the invention's usefulness to society. It is alleged that usefulness means the degree of need for an invention and the availability of such invention to society. Usefulness is closely related to the price that the patented invention bears. The cheaper the product, the more people tend to buy it and the greater profit the inventor will make. However, in this respect, usefulness is dependent on some external production factors such as consumer taste, the costs of transportation and the costs of advertising.⁹⁰ Its close dependence on external production factors makes the price and usefulness vulnerable and artificial.

⁸⁹ "The result of the privilege granted to an inventor is to give him a monopoly position in the market against the other producers in the country. As a consequence the consumers benefit very little from the invention, the inventor gains much, the other producers lose, and their workers fall into misery." By Sismonde de Sismondi: quoted in Machlup and Penrose, *Id.* p. 8.

⁹⁰ See Penrose, *op. cit.* 15 at pp. 28-29.

The granting of a monopoly over a product to only one person creates a serious problem regarding the usefulness of the product. The monopoly restricts others in their production of a given product once its production is concentrated in the hands of only one person. If the patentee does not reproduce the invention (make goods) at the same or above the level of demand, it can provoke a scarcity of the product in the market. Therefore, the product concerned will be more valuable since its price will be increased but it will be less useful.⁹¹

The fact that it was believed that the patent monopoly would reduce product availability in the market, especially the availability of pharmaceutical products, and that the term "usefulness" was not defined precisely, gave the anti-patent defenders the opportunity to weaken the "theory of reward by monopoly".

The "scarcity argument" is still made by those who believe the patent system causes more costs than benefits to society. However, this argument is misleading. The fact that the manufacture of a patented product will be controlled by an individual does not mean that production will be reduced. On the contrary, taking into account increasing market competition and a profit-oriented philosophy, it is believed that owners of patents, usually companies, will take the necessary steps to exploit commercial opportunities. This means making the patented product available to as many consumers as possible. Furthermore, product scarcity has been more and more dependent on the positive conditions to market, distribute and commercialise the product instead of product manufacture.

The second argument used to justify the patent system is that it prevents corruption and partiality, which can exist when granting bonuses and judging prizes.⁹² The patent system is a body of regulations supported by different principles: the Principle of

⁹¹ According to Penrose, "when scarcity does not exist, usefulness to society and economic value have nothing in common. The more widely a good can be used, the greater, surely, is its total usefulness and to limit its use is to limit its usefulness value". *Id.* p. 29.

⁹² According to John Stuart Mill "...an exclusive privilege, of temporary duration is preferable; because it leaves nothing to anyone's discretion because the reward conferred by it depends upon the invention's being found useful, and the greater the usefulness, the greater the reward and because it is paid by the very persons to whom the service is rendered, the consumers of the commodity." Quoted in Machlup and Penrose, *op. cit* 68 at p. 20.

Legality, the Principle of Equal Treatment and the Principle of Fairness. Thus, the granting of a monopoly through the patent system is conditional on the fulfilling of objective criteria such as novelty, and the industrial applicability of the invention. These requisites are imposed by the state and are applied uniformly to all inventors who desire to protect their creation. The same uniformity applies to the period for which the patent is granted and the rights conferred to the patentee.

1.3.1.2.2 Security of the System:

The legal protection accorded by the intellectual property system is organised and secured by the state. Thus, it utilises the same coercive instruments provided by the state to secure rights and property. In this respect, a series of tools are provided to the patentee who feels that his creation has been infringed by someone. A patentee can have an injunction imposed preventing the infringer from continuing to use his inventions, permitting the destruction of the goods, and also allowing for damages for the infringement to be claimed.

In the past, as nowadays, litigation involving intellectual property was a complex and expensive affair. The patentee, requesting help from the state, had to pay a large amount of money, had to be able to wait since the process was time consuming, and had to face the ignorance of the courts in understanding technologies.⁹³

Nevertheless, the patent system with its legal remedies to enforce intellectual property rights was available to inventors. This was a system that they could count on to secure protection.

⁹³ See MacLeod, *op. cit.* 22 at pp. 60-61.

Nowadays, the enforcement process in the courts and ancillary institutions has assumed an increasing importance since the development of society has been much related to technological innovation. Thus, some countries have been reforming their judicial system, strengthening rules against misappropriation of technologies and the free circulation of counterfeit goods, and applying rules strictly.⁹⁴

The adoption of a system of bonuses and prizes, as an alternative to the patent system, neither guarantees property protection nor prevents others from utilising the invention. This makes the system inadequate. It also re-emphasises the significance of the patent system which was and has been regarded as, the fairest and most effective way to reward a patentee.

1.3.2 The Economic and Social Benefit Argument for the Patent System:

Another group of ideas used to justify the patent system focuses on "social and economic benefits".⁹⁵ It emphasises the positive social benefits that patents can confer and the positive impact they can have on the economy of a country. This group comprises two main theories. They are regarded as the most respected arguments supporting the preservation of the patent system.

⁹⁴ U.S. companies and private inventors have launched more than 100 patent and copyright suits against Japanese companies. International market competition and the growing pressure of technological R & D costs have made U.S. companies, especially these in electronics and computer software, stricter with regard to the use and improvement, by third parties, of patented inventions. See "Patent Showdown Pending", *International Business Week*, 10th May 1993 at pp. 22-23.

⁹⁵ See Penrose, *op. cit.* 15 at p. 31.

1.3.2.1 Disclosing Secrets Theory:

The "disclosing secrets theory" is based on the consideration that the patent system is an instrument to make an inventor disclose his innovation to the public without the fear of losing it. This disclosure is desirable for society since innovation promotes social and economic development. Without this arrangement, inventors will keep their inventions hidden, and technological innovations will be lost without society benefiting from them.

This theory was based on the idea of a "social contract" developed during the 17th and 18th centuries in Europe.⁹⁶ The contract is between the society and the inventor, where one guarantees legal protection and the other spreads knowledge and makes available technological innovation and new products in society. This theory was also based on the principle of the system adopted during the Elizabethan period.⁹⁷ At that time, the grantee had to disseminate the knowledge by teaching the secrets of the art of production to a certain number of local apprentices in exchange for royal privileges. This security to owners of technology was necessary to help promote industrial progress in England.

The applicability of the idea of a "social contract" to patent law and the consequent development of the disclosing secrets theory helped during the 19th century to show that the patent monopoly was not an ordinary privilege granted by the Crown to the detriment of the public interest. Instead, the patent system could provide the technology needed for development.⁹⁸ It was an efficient instrument to make technological information available to the public.

Nonetheless, the anti-patent group raised some questions in endeavouring to undermine this theory. Among them, two arguments were strongly advanced against the "disclosing secrets theory". Firstly, the granting of patent monopoly to an inventor acts

⁹⁶ See Dutton, *op. cit.* 24 at p. 22.

⁹⁷ *Id.*

⁹⁸ The theory of the social contract was largely used by French politicians to avoid confusion between patent privileges and privileges for political purposes granted by the Crown. Machlup and Penrose, *op. cit.* 64 at p. 26.

unfairly against society since it prevents other researchers from making use of the same invention created independently by them. In this respect, the disclosure of patents does not have a positive impact on society where several similar ideas are being developed at the same time.⁹⁹ Other researchers will create an invention sooner or later and will make it available to the public. The counter-argument that can be presented is: "Will other creators of a similar invention present it to society if the threat of misappropriation by third parties exists?" If the answer is **no**, the inventor will hide his creations and will take them to his grave. The fact that he will have to share the profit with others will certainly not encourage him to the extent that his desire to create something and disclose it will be reduced.

Nowadays, the possibility of an inventor disclosing an invention he considers important without legal protection in the public interest is almost non-existent. Society has become very competitive. Sometimes, the possession of a technological innovation by one company can make a difference in the market. It can give the company commercial edge needed to control the market. The possibility of having the protection of the patent system has been regarded as one of the main reasons for inventors, especially companies, supporting the system.¹⁰⁰

The second argument of the anti-patent group is that no inventor can keep his invention secret for a long time. Sooner or later the secret will be found out and used by a competitor eager to improve his market position. Therefore, the patent system does not cause disclosure of inventions since the invention will be disclosed in any case.¹⁰¹ However, this ignores the number of inventions that can be concealed, especially processes. Sometimes, inventors do not disclose their inventions because they see no utility to society and no marketability for their inventions. In some cases, creations are forgotten because an

⁹⁹ *Id.*

¹⁰⁰ Also, it serves to assure the technology owner when transferring technology, that it will be used by the other party according to the terms of a contract and to the patent specification. It guarantees the owner control over the technology after the technology transfer contract expires. Vincent, D. "The Role and Functions of Patents as Tools of Technology Transfer" [1984] 23 *Industrial Property* at pp. 256-257.

¹⁰¹ See Machlup and Penrose, *op. cit.* 64 at pp. 25-28.

inventor realises that the costs of sharing the monopoly in the use of his invention are too high, and venturing to start a business would involve too many risks. The fact that any competitor will find out about the invention and will utilise it as if it were their own, means the tolerance, acceptance and legalisation of the spurious activity of appropriating something that does not originally belong to them.

The argument that all inventions will eventually be discovered by an eager competitor is not necessarily valid. While industrial espionage has become more prevalent, the concealment of technologies (products and processes) has been successful. One example is the Coca-Cola company. It keeps secret a formula (known as 7-X) to produce a refreshing drink. The flavour of the drink has become popular and the Coca-Cola business has prospered. The impossibility of others imitating the formula exactly has created an advantage to the Coca-Cola company. Only a very restricted number of employees have access to the formula (some believe the formula is known by only 2 persons), and these are bound by a contract not to disclose secrets involved with the formula. The formula itself is believed to be kept in a safe place, insured for millions, if not billions of dollars.¹⁰²

The business of keeping secret an invention is carried out by only those few enterprises which can afford to pay the high price of maintaining such secrecy. The costs of concealment are regarded as lower than the costs of seeking a patent, and the benefits higher. It is a strategy largely, though not entirely, adopted for processes.

Another point to be added is that keeping an invention secret does not give an inventor much scope to exploit it further in alternative ways. In case of technology transfer or licensing, it is extremely risky for the inventor to license his secret technology to someone else. A large number of precautionary measures would be necessary. An agreement

¹⁰² This is only one example of the importance to and commitment of an enterprise in keeping an invention concealed. Other examples are the Campari formula which is believed to be known by one person, the German perfume '4711' based on a secret formula for more than 200 years, and the French perfume Chanel No. 5.

The idea of keeping formulas secret comes from monasteries in medieval times where liqueurs and some elixirs were produced. The tradition of passing the formula on from its possessor is believed to have been done only when the possessor was on his deathbed. See Jensen, Mette Munk, *"Know-how Licensing Aspects of the Concept of Know-how and Know-how Licensing in Denmark and the United Kingdom"*, unpublished LLM thesis presented at the University of Kent at Canterbury, September 1991 at pp. 23-25.

would be much more easily reached if the invention to be licensed were patented.¹⁰³ In addition, the protection of a concealed innovation, under trade secret law, will only be limited to wrongful appropriation. It does not prevent independent discoveries or the use by third parties when accidental leakage is done by the owner.

The secrecy theory is still widely accepted as a justification for the patent system. Alongside the "monopoly profit incentive thesis", it constitutes the strongest argument supporting the present patent system.

1.3.2.2. The Monopoly Profit Incentive Thesis:

This theory considers the patent system to be an important instrument in fostering the attraction of foreign technology and investment. Consequently, it can promote economic development.

The recognition of property rights, the granting of monopoly for the manufacture of a technological innovation, and the reward given to inventors are justified by social and economic factors.

The roots of this theory lie in the historical development of the patent system in England and the causal relationship between patent protection and economic growth. As we have already seen, during the fourteenth century the British Crown adopted an industrial policy aimed at attracting foreign technology and foreign direct investment by granting patent monopolies. Those who decided to bring new technologies into the country and to teach them to others, and who were willing to establish industries, had a secure monopoly to produce and to sell their technologies (embodied in goods) for a given

¹⁰³ Nevertheless, when the licensing of patented technology takes place, the know how of the technology is transferred to the licensee under some conditions, and under the rules of breach of confidence. The objective of this is the prevention of linking information not available to the public when technology transfer occurs. The licensor's desire is to have the fully licensed technology back when the agreement expires.

period of time.

Thus, an effective incentive used to secure the establishment of industries, technological innovation for industrial purposes, and consequently economic advancement was private reward. Society pays a price for its economic development which is considered worth paying.

This theory, within the "social and economic benefits" justification, is the most preferred by the advocates of the patent system. It can be largely used for the purpose of justifying adequate intellectual property protection. It was widely used during the nineteenth century when the anti-patent movement grew in Europe and a more persuasive theory in favour of patents was needed.

The importance of this theory lies in the fact that it contributed to the idea that it is necessary to secure a positive environment for inventors and investors so that their business ventures are not susceptible to high risks and that they make a profit. This theory was the strongest argument they had, since it was fundamentally based on the association of technical innovation and economic progress, as well as on private reward. This was in **contrast** to other theories which were basically centred on the individual benefits to an inventor or on the importance to society of information. The message given by the "profit incentive theory" is clear: "inventions bring economic development if adequate conditions are given to its owner to make it work":

"The granting of patent privileges offers a prize to inventive minds. The hope of obtaining the prize arouses the mental powers and gives them a direction towards industrial improvement."¹⁰⁴

The anti-patent group has argued that although it is recognised that the patent system is an effective instrument to foster technological innovations, it is not indispensable for inducing inventive activity.¹⁰⁵

¹⁰⁴ McCulloch's opinion quoted in Machlup and Penrose, *op. cit.* 64 at p. 22.

¹⁰⁵ Machlup and Penrose, *op. cit.* 68 at p. 21-22.

The exact number of inventions that are created due to the existence of the patent system has never been evaluated by economists or lawyers due to the complexity of the task. Its difficulty lies in the fact that other factors besides the legal protection offered by the patent system induce inventors to engage in the research and development of technology. Examples are the inventor's own natural motivation to undertake research and the financing of technological advancement.¹⁰⁶ Also, it is believed that technological infrastructure in a market and favourable competition laws are factors that encourage inventors to undertake R & D. These factors are probably impossible to separate and to be individually weighed.

Another point that was argued by the patent system's defenders, and prompts doubt, is whether the patent system is a cheap instrument to protect inventions. Some economists have argued, and still argue, that society pays a high price through the monopoly (reduction of competition) to keep the system working, and to obtain the needed technology.¹⁰⁷

Nevertheless, jurists and economists accept, and recognise, the value of the patent system in fostering innovation and in securing economic progress. They believe that the costs incurred in administering the bureaucracy of the patent system can be offset by the benefits it brings to society. Also, despite the difficulty in statistically proving that the patent system and its degree of protection directly influence the amount of research and development undertaken, it can be argued that the patent system helps inventors and investors in undertaking technological innovations.

Since the 1950's, the world economy has entered into a new phase where commercial competition has been hugely increased at a national and international level. The principal objective of this new era of capitalism has been the conquest of national markets by commercial competition not by colonial domination. Companies that can produce and

¹⁰⁶ Kingston, *op. cit.* 2 at p. 8.

¹⁰⁷ See Machlup and Penrose, *op. cit.* 64 at p. 23. Among the costs is keeping the administrative framework of the Patent System: Patent Office, justice, enforcement and prosecution bureaucracy. Preventing others from using the product or the process invented for a determined period of time is a cost born by society.

commercialise better goods at competitive prices have an advantage in the market.

The organisation of a large scale market has influenced and developed the philosophy of "better goods for powerful markets" where it is necessary to produce and to increase productivity on a large scale to supply the basic needs of human beings and to satisfy their material aspirations by providing more sophisticated, advanced and useful goods. This new approach has altered the habit of consumers and it has created the mentality that "the more one spends, the happier one becomes."

The result has been that companies are more and more dependent on innovation. Inventions, marks, industrially applicable designs and artistic works are viewed as assets by companies.¹⁰⁸ Also, this has made the development of society more closely linked to technological development. Industries have needed more and more technological knowledge. Therefore, they have invested heavily in research and development.

It is recognised, according to the research of North and Thomas,¹⁰⁹ that companies are willing to undertake commercial activities or any activity, when it is clear that the private benefits of the venture are higher or, at least, equal to the costs.¹¹⁰ This can apply to R & D investment. In this context, intellectual property can appear as an instrument that recognises ownership and protects innovation. It prevents third parties from misappropriating innovation.

"A major obstacle [to ocean shipping and international trade] was the inability of navigators to determine their time location. This requires a knowledge of two coordinates: latitude and longitude. The ability to determine latitude was early discovered and only required measuring the altitude of the Polar stars... The determination of longitude, however, was more difficult since it required a timepiece which would remain accurate for the long ocean voyages. Phillip II of Spain first offered a prize of 1.000 Crowns for the inventor of such a timepiece. Holland raised the prize to 100,000 florins, and the British finally offered a prize ranging from 10,000 to 20,000... this prize hang in suspension until

¹⁰⁸ It is believed that innovation costs have replaced production costs as the most sizeable investment in business. Robert, Lee and Hull, John, "Technology, Trade and World Competition" [1990] 1 EIPR at p. 3.

¹⁰⁹ North and Thomas, *op. cit.* 4 at p. 3.

¹¹⁰ Among the costs are the transaction costs which include the time consumed and money spent on bargaining, measuring, supervising and enforcing commercial transactions.

the eighteenth century when it was finally won by John Harrison... How much sooner might the breakthrough have occurred, had there been property rights to assure an inventor some of the increase income resultants on the saving of ships and time?... The payments of mathematics and the proffered prizes were artificially devices to stimulate efforts, whereas a more general incentive could have been provided by a law assigning exclusive rights to intellectual property... In the absence of such property rights, few would risk private resources for social gains.¹¹¹

An additional and related element is the legal remedies offered to enforce protected rights. As seen in the discussion of the "reward by monopoly theory", litigation involving intellectual property is a complex and expensive matter. The enforcement offered by the state acts as an assurance of rights and monopoly.

As a result, the intellectual property system can also decrease market imperfections thereby ensuring that investment in R & D is effectively reallocated and its output (innovation) efficiently exploited by society and the owners of the production factors. This can influence the development of countries since production and market costs can be reduced and productivity increased.

Another role played by the intellectual property rights system is the manufacturing monopoly given to inventors. According to a modern American writer, Posner,¹¹² the patent system discourages duplication of inventive activities by competitors. He gives the following example:

"Suppose that it costs \$ 10 million to invent a new type of food blender, the marginal cost of producing and selling the blender once it is invented is \$ 50, and the estimated demand is for 1 million of the blenders... Unless the manufacturer can charge \$ 60 per blender, he will not recoup his costs of invention. But if manufacturers face the same marginal costs as he, competition (in the absence of patents) bids the price down to \$ 50, the efforts at recoupment will fail, and anticipating this the manufacturer will not make the invention in the first place."

Nowadays, more than ever, investment in the research and development of technological

¹¹¹ See North and Thomas, *op. cit.* 4 at p. 3.

¹¹² Posner, Richard A., *Economic Analysis of Law*, 1991 4th ed. (Little, Brown and Company, New York) at p. 38-44.

innovation is costly. The granting of monopoly means that an inventor will have a commercial advantage in the market. He will be able to exploit its innovation without competition for a certain period of time. The manufacture monopoly helps assure that investment done will be recouped by the inventor and that new development will be able to be further financed.¹¹³

The manufacture monopoly is regarded as by those who invest in technological innovation one of the most important characteristic of this system. The fact that there exists fierce competition in the international market makes this commercial monopoly a precious privilege.

Intellectual property defines ownership and the extent of private exploitation. The importance of defined and clear property rights to the economic development of a country has been emphasised by Libecap.¹¹⁴ According to his research, as property rights delineate the parameters of the use of commercial resources, and define the costs and benefits to individuals of exploiting such resources, they establish incentives and prospects for investment, production and commercialisation. In the case of intellectual property rights, by defining the boundaries within which the owner can exploit his innovation, the owner will be able to determine the degree of exploitation and the risks of manufacturing and marketing his technological innovation in a country. Thus, it is believed that the clearer, more defined and better intellectual property rights, the more inventors will be encouraged to venture into commercial and technological activities.¹¹⁵

According to Rapp and Rozek,¹¹⁶ the gains from well-defined and efficient property rights are illustrated by their comparative data research. By comparing individual

¹¹³ Changes related to the patent term have been proposed by companies in European Community countries, especially by pharmaceutical industries. As research and development in pharmaceuticals is costly and protracted, they believe that the increase of patent term will enable investment to be recouped over a longer period of time and will stimulate innovation. See *Supplementary Protection Certificates, A Report by the Common Law Institute of Intellectual Property*, 1991 (Common Law Institute of Intellectual Property, London).

¹¹⁴ See Libecap, G., "Property Rights in Economic History: Implications for Research" [1986] 23 *Explorations in Economic History* at p. 227.

¹¹⁵ See Rapp, Richard T. and Rozek, Richard P., "Benefits and Cost of Intellectual Property Protection in Developing Countries" [1990] 23 *J.W.T.L.* at pp. 77-78.

¹¹⁶ *Id.*

countries' socio-economic development with an index of the likely effectiveness of patent protection, it is strongly suggested that the level of economic development is closely related to the degree of patent protection.

Besides adequate property rights having a strong influence on the behaviour of individuals towards venturing into commercial activities, they lead to efficiency in the use of resources.¹¹⁷ Adequate property right organise the exploitation of resources in relation to production needs and the extent of rights over it. Therefore, they make exploitation of resources much more rational and productive factors much more efficient. This is the case with common pool production in oil reserves where defined property rights have helped make exploration, extraction and investment more efficient and attractive.¹¹⁸

Another justification for the intellectual property system nowadays is the tendency towards market globalisation.

As seen, the economic changes after the Second World War have led to increased market competition. The fact that companies have been influenced by the desire for high profits and by improvements in the means of transport and communications have made it more feasible for them to venture overseas thereby making the world smaller for commercial opportunities.

The establishment of companies in other markets means that they will take with their whole production there as well as their technological innovation. This technology venture will certainly improve the economic development of the country receiving the investment.

Moreover, the fact that those companies transfer production mean that a series of benefits will be created in the country: (1) new management skills and techniques that help to increase the productivity of the company will be introduced. This influences

¹¹⁷ See Libecap, *op. cit.* 114 at pp. 229-231 and Lehmann, "The Theory of Property Rights and the Protection of Intellectual and Industrial Property" [1985] 16 IIC at pp. 539-540.

¹¹⁸ See Libecap, *Id.* pp. 242-247.

changes in management attitudes in other companies; (2) competitiveness in the market will be introduced thereby influencing economic efficiency; (3) inflation may be lowered, thus helping promote economic growth. Competitiveness reduces production costs thereby pushing the prices of goods down; (4) jobs will be raised; (5) the country's tax revenue will be raised; (6) an efficient way to revitalise the country's economy without the need for borrowing capital from international organisations will be created; (7) such companies will be efficient in the international market thereby making a positive impact on the balance of payments.

Such a way of obtaining technology, called foreign direct investment, is regarded nowadays as the most desirable, especially by developing countries.

The fact that companies transfer technology as well as their whole production to a different country thus increasing competition, makes proprietary rights an increasingly important element in influencing foreign direct investment.

The fact that the lack and inadequacy of intellectual property rights cannot guarantee the required protection of companies' technological assets in other markets may mean that the necessary large investment will not be made.

In this context, the lack of or weak intellectual property protection can be an unfavourable element in the existing climate for direct foreign investment, especially in developing countries. It is strongly suggested then that inadequate intellectual property protection can be an obstacle to foreign direct investment. Consequently, it can have a negative impact on a country's economic development.

Finally, the survival of the patent system and its presence since the 14th century 14th century is a strong indication of its importance to society. The patent system, as an institutional arrangement, may not be the ideal solution for protecting innovation and for fostering foreign technology thereby leading to economic development.¹¹⁹ However, it does

¹¹⁹ According to Matthew Davenport-Hill in 1867: "That the wit of man cannot devise a perfect [patent] system- perhaps not one approaching perfection- I do not deny. But every day I live, the more strongly am I impressed with the belief that this is and ever was and ever will be the condition of all human affairs; and that we must be satisfied with very distant approaches indeed to what it is very desirable we should attain." Text quoted in Machlup and Penrose, *op. cit.* 64 at p. 29.

seem to satisfy the interests of inventors, investors and society. Market forces tend to erode and to dismantle institutions that do not contribute to economic growth.¹²⁰ If the intellectual property system was not important and was producing higher costs than benefits to private companies and individuals, this system would already have fallen into disuse. It would have been replaced by a more efficient one.

Despite the criticism made against the patent system during the 19th century, the system's advocates were well organised in publicising their arguments. Together with the decreasing popularity of the free trade movement and the piracy stigma in Europe, the patent arguments played an important role in weakening the opposition.¹²¹ Consequently, by the end of the 19th century much of the opposition had faded away. By that time, Holland was the last bastion of the anti-patent system. Holland re-introduced the patent system only in 1910.

Nowadays, the evidence of the economic and legal history of Britain from the 14th century onwards and the "justifying theories", are important in supporting the patent system. In particular, the "monopoly incentive" theory, can be useful in convincing countries that intellectual property protection does contribute to fostering desired technology and investment, especially if the protection afforded is strong and adequate.

¹²⁰ See Libecap, *op. cit.* 114 at p. 227.

¹²¹ See Machlup and Penrose, *op. cit.* 64 at pp. 5-6.

CHAPTER TWO

CHAPTER II

THE ALLEGED CONSTRAINTS OF THE INTELLECTUAL PROPERTY SYSTEM ON THE ECONOMIC DEVELOPMENT OF DEVELOPING COUNTRIES AND THEIR EFFECT ON THE PRESENT INTERNATIONAL ENVIRONMENT FOR FOREIGN TECHNOLOGY AND DIRECT INVESTMENT

As was seen in the previous chapter, the intellectual property system was an important factor in fostering the economic development of European countries, especially England. It was largely used by countries to attract the technology needed to make the productive factors more efficient and to reduce market imperfections so that industrialisation and trade could flourish.

In fact, this system is still one of the main instruments used to induce appropriate technology and attract foreign direct investment for economic growth. This has been the case with developing countries which, realising the benefits of this system, have also come to adopt the same strategy. They have extended property protection to technological innovation.

Nevertheless, protection of intellectual property in developing countries has been said to be inadequate for patentees. It is believed that developing countries have refused to apply the basic principles of the intellectual property system: guarantee of technology ownership and the manufacturing monopoly. Also, developing countries have been seeking changes in the international rules related to the intellectual property system. These have contributed adversely to the international environment for technology transfer and direct foreign investment with serious costs to developing countries. This chapter has as its purpose the analysis of the reasons for the refusal to give adequate intellectual property protection. Also, it aims to show the direct consequences, especially at an international level, of this policy.

These objectives will be achieved in five stages: (1) an examination of the alleged cost of the intellectual property system to developing countries; (2) a study of the developing countries' reaction, at an international level, to alleged limitations and abuses of the system; (3) an examination of the developing countries' request for the revision of the Paris Convention; (4) an analysis of the UNCTAD forum; (5) an analysis of the developed countries' response to the alleged inappropriate intellectual property protection including a study of the Uruguay Round.

2.1 The Rhetoric of Economic Development and the Effects of the Intellectual Property Rights Systems on Developing Countries:

It is recognised that in order that a country can obtain economic growth maturity and strengthen in its industrial sector, it has to attract investment, capital and new methods of achieving economic results. These factors play an important role in improving the use of productive factors and increasing the level of competitiveness in the market.

In the case of technology, three important periods of history can be identified in showing its importance to countries. First, technology played an important role, during the Medieval times, in enhancing efficiency in the Low Countries and reducing market imperfections in those regions. Secondly, the contribution of technical innovation to the Industrial Revolution in England can also be regarded as important. Thirdly, technology, currently plays an important part in helping to support current levels of economic growth of developed countries. Studies from the seventies show that the contribution of technical innovation to growth in productivity reached a rate of 75%.¹

Consequently, technology has been regarded as a point of interest for developing

¹ Estimate cited in Kunz-Hallstein, Hans P., "The Revision of the International System of Patent Protection in the Interest of Developing Countries" [1979] 10 IIC at p. 649.

countries in promoting industrialisation and development. It has been focus of discussions in developing countries since the beginning of the sixties when greater economic development was sought by many of them.² Obtaining technology became an important task for them.

Nowadays, technology can be obtained by countries in two different ways. The first is through the promotion of research. The second is by acquiring technology from countries or companies that possess the required latest technology.³ The latter case is considered to be the more appropriate for fast economic advancement because acquiring technology from others is cheaper and much less time-consuming. Developing a domestic research or technical environment is costly and risky. The uncertainty inherent in research is the fact that the results expected sometimes do not appear.⁴ Also, the results expected may only be achieved in the long-term. Moreover, a technological environment can only produce good economic results if the government reallocates knowledge more efficiently according to the economic needs of the market. In this case, a government policy has to be formulated to increase the interaction between knowledge and commercial purpose or, in most cases, universities and industry. This is not what has happened in the majority of countries, especially developing countries. Centres of research and knowledge have little connection with the productive sector.

Accordingly, from what has been said above, it appears that the most sensible way of acquiring technical innovation is to enter into technology transfer arrangements.⁵

The efficiency of technology transfer can be seen in the historical economic development of European countries, the United States and Japan which have all achieved high

² The developing countries which adopted strong policies of industrialisation during the 50's and 60's were the Latin American countries (mainly Argentina, Brazil, Chile, Mexico and Uruguay) and nations from Southeast Asia, such as Hong Kong, Indonesia, South Korea and Taiwan.

³ See United Nations Resolutions 2226 (XXV), 24th October 1970.

⁴ It is believed that there are two very efficient ways to spend a quantity of money in a short time. The first is to buy wine and the second is to invest in research. In the case of wine, one will be certain that one will get wine. But, in the case of research there is the certainty that one will spend lots of money but not gain the expected results. See Brown, R.N., "Of Patents, Money and Development" [1990] Patent World at p. 15.

⁵ Technology transfer can mean licensing, cooperation agreements, turn-key and construction contracts, franchising arrangements, consultancy contracts, contracts of sale and lease of capital, joint-venture and foreign direct investment.

technical advancement. Nowadays, the most impressive example of the positive role of technology transfer is Japan. By adopting a policy of technological importation (techniques and technicians) linked to a strategy of comprehensive scientific education and export-oriented marketing, Japan was able to leave its medieval stage of economic development and transform itself into a powerful industrialised country within a period of only 50 years.⁶ The Japanese believed that their lack of raw materials, their lack of a large domestic market and of strong companies could be overcome by increasing production efficiency and adopting a strong export-oriented policy. Thus, technology transfer arrangements with the Western world would provide the technology needed for Japan to increase market efficiency and for Japanese companies to face up strong competition in the world market.⁷

Developing countries began to adopt similar deliberate policies of attracting technology by entering largely into technology transfer arrangements. They have also recognised proprietary rights to technological innovation by enacting laws on intellectual property.⁸

⁶ By disposing US\$ 3 millions, Japan obtained the best skills or the cream of American and European skills during the 50's. See Bouju, Andre, "Patents, Models and Trademarks: Bridgeheads in Technology Transfer" [1987] January Patent World at p. 16.

⁷ It is estimated that Japan spends US\$ 2 billions dollars every year to pay royalties for foreign technology. Brown, *op. cit.* 4 at p. 14. See also, Bloom, N. D. H., "Technology Acquisition, a Lesson From the Korean Electronics Industry" [1990] 3 MIP at pp. 34-38.

⁸ As seen in the previous chapter, intellectual property rights can be an important factor in attracting foreign technology and direct foreign investment. In the case of technology transfer arrangements, especially licensing contract, intellectual property can also play a variety of crucial roles. Among them are: (1) the information factor. Also, a published patent specification describing a patented product is a good source of information about how the technology works and how to make use of it. It makes the information available to the population. The claims of the patent provide the technical scope of the invention. Thus, developing countries can choose appropriate technology to develop a sector of their economy more easily; (2) the technology can be more securely transferred if it is legally protected. The fact that the inventor's innovation is patented gives him the assurance that whatever happens he will have the use of the legal instrument available to him to claim his property back; (3) the technology protected helps the parties to define the technology to be transferred and the contract itself. The moment the parties come together and discuss the term of a contract of technology transfer, the future recipient party will request some details of the technology to be transferred. Sometimes, the owner of the technology may be hesitant to disclose the technology before an agreement is reached. This period in the transaction is very important since the disclosure of preliminary information is used to evaluate the technology. By having the invention patented, the supplier will be better placed to describe the technology. Also, it helps to define the range of the technology. See Vincent, D., "The Role and Function of Patents as Tools of Technology Transfer" [1984] 23 Industrial Property at p. 258. (4) it facilitates the parties to establish the territory of the technology and the period of the contract. By using a patent to delineate the scope of the technology, the technology transacted will be restricted to the territory of the state in which the granting was given (if not otherwise agreed). See Stumpf, Herbert, "Interests and Conflicts of Interest in Technology Transfer- The Role of Patents" [1978] 9 IIC at pp. 314-317. See also Passemar, B. de, "The Transfer of Technology: Extent and Constraints" [1984] 23 Intellectual Property at pp. 342-345 and Bouju, *op. cit.* 6 at pp. 17-19.

The economic development of American, Western European and Japanese companies, which was largely due to technology transfer arrangements could not however be repeated in the developing countries. It was noticed that the impact of technology transfer in such countries was different from that in developed ones.

2.1.1 The Patent System's Alleged Costs to Developing Countries:

In fact, the intellectual property rights system adopted by developing countries, and the way technology transfer was taking place were believed to be contrary to the economic development policy undertaken by developing countries during the 50's and 60's.

At that time, some developing countries initiated their processes of industrialisation. Most of them adopted a process called import-substitution.⁹ This policy is based on the organisation of an industrial infrastructure. By giving financial and commercial incentives, and guaranteeing a locally protected market for companies producing locally, developing countries' governments hoped to foster the formation of domestic enterprises. They also encouraged the inflow of foreign companies that were willing to transfer their technologies and production. This could reduce a country's dependency on the import of manufactured and capital goods from a developed countries. This policy, it was hoped, would produce a strong local industrial and commercial infrastructure for development. Furthermore, it could provide the protection needed for companies to strengthen themselves so that they could compete in the international market.

However, increased competition in the international market has made companies, mainly from the developed countries, invest massively in R & D in order to achieve technological innovation. Therefore, they have become the owners of most of the innovations

⁹ A clear analysis of this policy will be presented in the next chapter when the Brazilian case will be studied.

seen nowadays, and they are reported to possess the most patents in the developing countries.¹⁰

Many developing countries' governments believed, however, that granting adequate intellectual property protection and securing the monopoly on technology's commercialisation would strengthen commercially and technologically the position of transnational companies in the domestic and international market to the detriment to local enterprises.

But, the lack of capital of local companies, their technological delay, and local market imperfections made it difficult for them to compete against transnational companies. In addition, the situation faced by such firms is reflected in the economies of developing countries. Since local companies can provide most of the local employment and tax revenue, and contribute to acquiring hard currency, their lack of competitiveness affects the industrialisation process undertaken by developing countries.

Another interesting fact related to intellectual property is that the concentration of foreign patent ownership in developing countries could be seen as factor favouring development. This is because the primary objective of the patent system is to stimulate innovation and bring about the establishment of industries. Instead, the reality was believed to be the transformation of the patent system into a tool to maximise profit.¹¹

The maximisation of profit was, in this case, supposed to occur when a company obtained patent protection in a certain area, thus, excluding competitors from entering into the market, but without itself engaging in producing the product or utilising the

¹⁰ According to a United Nations study on patents in 1975, transnational corporations had acquired a larger share of patent ownership throughout the countries. In France, corporations possessed almost 80% of the patents existing in 1968. Moreover, patents from foreign corporations corresponded to about 75%, while national corporations held 15%. In developing countries such as Chile, almost 80% of patents were of foreign ownership. See UNCTAD, *The Role of the Patent System in the Transfer of Technology to Developing Countries*, 1975 UNCTAD doc. TD/B/AC.11/19/Rev. 1 at p. 39- Appendix A. It is believed that this situation has not changed. Big transnational companies have recently been reported to possess most of the existing patents in the United States. See "Global Innovation: Who's Got in the Lead?", *International Business Week*, 10th August 1992 at pp. 48-53. See also WIPO statistics annually published in the periodical *Industrial Property* which is the monthly review of the WIPO and UNCTAD, *Formulation of a Strategy for the Technology Transformation of Developing Countries*, 1990 UNCTAD doc. TD/B/779 at parag. 2.

¹¹ See Vaitos, Constantine, "Patents Revisited: Their Function in Developing Countries" [1972] 9 *Journal of Development Studies* at p. 77. See also Haar, Paul S., "Revision of the Paris Convention: A Realignment of Private and Public Interest in the International Patent System" [1982] 8 *Brooklyn Journal of International Law* at p. 86.

patented process.¹² Thus, developing countries offer the privilege of the exclusive exploitation of an invention to a company at high cost yet without benefiting from consequential economic development.

Another abuse of the intellectual property system, alleged by developing countries, was the overpricing of patented products.¹³ Examples of this were the pharmaceuticals companies in Colombia which were said to be overpricing drugs by up to 1,400% above the world market price.

Such abuses could not, according to many governments, be tackled by the patent system. The patent system was seen to have failed to control the powers of the patentee.

2.1.2 Costs of Trademarks to Developing Countries:

The developing countries' concerns with the impact of the intellectual property rights system on their economic development did not only relate to patents, but also to trademarks. In the case of trademarks, the main abuses noted were as follows: (1) the use of trademarks and brands to conquer a market and to increase the sale of the same product. It was noted that pharmaceutical companies in 1974 had created 17,000 pharmaceutical brands names in Argentina, 14,000 in Brazil and 15,000 in Colombia and India.¹⁴ If companies create and use numerous brand names for similar products, they induce confusion in the minds of consumers. Trademarks have become a powerful instrument of market power to the detriment of the basic objective of trademarks which is their information

¹² "...Patent applications are being made so as to prevent the use or improvement of any existing or possible substitute of the bottle making machine... This... seeks to block competing devices which would lesser our income... We now have a number of applications which were filed to definitely forestall the development of competing machines by others." Memorandum presented by Commissioner Coe in *"Investigation of Concentration of Economic Power,"* part three at p. 842, as cited by Kahn [1940 at p. 485]. cited in Vaitos, *Id.* p. 76.

¹³ *Id.* p. 87.

¹⁴ See UNCTAD, *The Role of the Trademarks in Developing Countries*, 1979 UNCTAD doc. TD/B/C.6/AC.3/3/Rev. 1 at parags. 184-185.

function.¹⁵ (2) Excessive costs paid by the public. The first cost is related to the proliferation of marks and brand names noted above. The promotion and commercialisation of new brand names is a very expensive business. In the pharmaceutical area, the costs are increased by the need to appoint medical representatives to approach physicians and to create extensive advertising networks, sponsoring conferences and distributing free samples.¹⁶ The costs of promoting brands are believed to be borne by consumers. The second financial cost is related to the payment of royalties in licensing agreements where the licensee passes on the financial costs of the licence in the price of the product sold. (3) A further cost of trademarks is evident when domestic companies engage in the production of goods similar to those of foreign companies. Due to the strong position of foreign companies, domestic enterprises are deemed to have two options. Firstly, they may accept a reduction in their share of the market. Secondly, they may enter into licensing agreements. In the latter case, the costs will be the payment of royalties and the inability to create their own goodwill. Goodwill, in this case, will be associated with the foreign company.¹⁷

2.1.3 Technology Transfer Agreements' Harmful Effects on the Companies in Developing Countries:

Another important point realised by the developing countries was related to technology transfer agreements. The main problem was the conflict of interest between the licensee which aimed to use the technology fully and the licensor's commitment to make as much profit as possible from the licence and not necessarily to transfer the technology

¹⁵ See Blakeney, Michael, *Legal Aspects of the Transfer of Technology to Developing Countries*, 1989 (ESC Publishing Ltd., Oxford) at pp. 115-116.

¹⁶ See UNCTAD doc. *TD/B/C.6/AC.3/3/Rev. I*, *op. cit.* 14 parags. 187-198.

¹⁷ See Blakeney, *op. cit.* 15 at p. 117.

in its entirety.¹⁸

Developing countries believed that due to the local companies' weak bargaining position, the transfer of the desired technology was often inadequate.

The disadvantageous position faced by licensees in developing countries stemmed from the vital economic need to acquire technology. However, this made them vulnerable when negotiating licensing contracts. It was believed that the technology available to developing countries was predominantly old, and inadequate for markets in less industrialised countries. The technologies to be licensed reflected the real demand, relative price and socio-economic environment of a particular country. When technology is licensed, it must be adapted. This adaptation sometimes decreases the efficiency of the technology. Also, sometimes, the technology to be used efficiently must be accompanied by the acquisition of ancillary materials. This situation usually benefited those who licence the technology since they were able to impose the conditions relating to the transfer of the technology on the acquisition of ancillary material.

Another fact which weakened the position of licensees when contracts were being negotiated was the economic difficulties faced by them. Financial constraints, the lack of a competitive environment and infrastructure to receive the technology did not help them in obtaining the latest and most useful technology. Usually, cutting edge technologies are more expensive, and require not only a large amount of money to be paid for the technology, but also a strong infrastructure so that it can be used and absorbed by the market.¹⁹

Besides that, a large number of restrictions on the use of the information transferred was alleged to be included in technology transfer or licensing arrangements. Some limitations are included by the licensor to protect the technology, others are used to restrict the use of it. The degree of the limitation can determine whether the limiting measure

¹⁸ Stumpf, *op. cit.* 8 at pp. 312-313.

¹⁹ Developing countries with large international debt problems such as Brazil and Argentina, have been restricted by their difficult economic position. Although their markets and most local companies possess a fairly organised infrastructure to absorb the technology licensed, the restriction on the outflow of hard currency has been extremely controlled.

amounts to a restrictive practice.

Among the most common limitations to the access of technology by licensees in developing countries are:

2.1.3.1 Tie-ins and Special Crew Members:²⁰

(A) *Tie-ins*: Sometimes, the technology licensed must be accompanied by the acquisition of ancillary material. This situation can benefit the licensor since he conditions the transfer of the technology on the acquisition of all material and products for the exploitation of the licence from him. In this situation, the licensor becomes the only source for the licensee.²¹

The imposition of tie-in purchase provisions tend to be used to guarantee the quality of the goods produced by the technology licensed, especially in countries where the infrastructure is not well established, and to create conditions for the successful exploitation of the technology. This frequently occurs in cases where the licensee in the developing country is in charge of an assembly operation.²² The licensor's wish is to maintain a monopoly in supplying processed and semi-processed inputs.

In the above situation, the tie-in provision is justifiable. However, the monopoly of the licensor in supplying goods can increase costs to developing countries' companies. The price of the ancillary products can be determined by the licensor's will. Therefore, these provisions can create problems for licensees and generate serious damage to their financial situation.

Another negative impact of these provisions is that companies in developing countries are unable to conquer new markets and are prevented from extending their influence

²⁰ See UNCTAD doc. *TD/B/AC.11/19 Rev. I, op. cit.* 10 at parag. 192.

²¹ Blakeney, *op. cit.* 15 at p. 37.

²² See UNCTAD doc. *TD/B/AC.11/19 Rev. I, op. cit.* 10 at parag. 193.

by trading with other suppliers.²³ Therefore, tie-in provisions have negative influences on import-substitution and export diversification policies. They can be harmful to the economy in cases where they are used as a way of increasing the licensor's profit margin on the transaction.

B) *Special crew members*: Another restriction imposed by licensors that can produce harmful consequences for licensees in developing countries are the provisions that oblige patentees to use expert personnel chosen by the licensor.

As with tie-ins, provision of special crew members can be justified when the licensee lacks the necessary expert personnel to operate the licensed technology. In this case, in order to maintain the quality of the goods produced through the technology, the licensor employs crew members from its parent plant.

Nevertheless, licensees in developing countries have tried to avoid these clauses so that they can develop technical skills and create the necessary infrastructure for the technology themselves.²⁴ They allow the licensor to use his personnel in those areas where the necessary labour is not available, and try to impose an obligation on the licensor to train local personnel to replace the licensor's crew members, and to reduce the local shortage of qualified technical skills.

2.1.3.2 Territorial Restrictions on Exports:

Territorial restrictions limit the field of use and the place where the technology can be used. It is an important requirement that must be present in every technology transfer agreement. The designation of the territory serves as an instrument for the licensor to control the use of the technology licensed.

²³ *Id.* parag. 194.

²⁴ Blakeney, *op. cit.* 15 at pp. 37-38.

Export restrictions are regarded the most problematic restrictions the licensor can impose on the licensee. They affect not only the licensee's company itself, by restricting the opportunities to participate in the international market and preventing it from using its resources (human and natural). They also affect the country since such limitations prevent it from making its industries more competitive. Furthermore, they affect the country's export potential and prevent it from increasing its sphere of political and economic influence.

Territorial restrictions on exports can take various forms in different situations. They can impose a complete ban; they can require the authorisation of the licensor; they can prohibit exports only to certain countries; they can prohibit the export of certain products made by the technology licensed; and they can prohibit export by requiring permission to be sought through the licensor's agent.²⁵

Another territorial limitation encountered in technology transfer agreements or licensing transactions is the restriction of the technology to one field of use.²⁶ One example is the licensing of biotechnology for agricultural purposes only, and not for health applications, although the technology may be used in both cases.

2.1.3.3 Financial Abuses:

The strongest complaints by developing countries have related to the price of the technology to be licensed. They believed the licensors overcharge them.

As a way of limiting the excessive charges, a Mexican law in 1973 provided that when the price charged exceeded the economic capacity of the licensee, and constituted a burden on the country's economy, the licence contract could have its registration

²⁵ See UNCTAD doc. *TD/B/AC.11/19/Rev. 1 op. cit.* 10 at parag. 187.

²⁶ See Blakeney, *op. cit.* 15 at p. 40.

cancelled.²⁷

Another complaint is that payment is required to be made during the whole life of the agreement to manufacture a patented product or to apply a patented process, even after the relevant patent has expired. This means of payment has been considered unlawful and unacceptable in developing countries. The argument against this is that the duration of the licence is regarded as corresponding to the existing term of the patent. Moreover, they are restrictive since the licensee will carry on disposing his financial resource by paying for the technology.²⁸

2.1.3.4 Competition Limitations:

Sometimes licensing agreement clauses restrict the possibility of the licensee competing with the licensor.

The non-competition clause occurs in two distinct forms. In the first one, the licensee is forbidden to manufacture, market or sell products using the technology licensed that can compete with the goods emanating from the licensor. This clause reduces the market opportunities for the licensee and the diversification of its production. The second form prohibits the licensee from entering into agreements or acquiring any goods from competitors of the licensor.²⁹ This restriction is an anti-competitive measure that has negative impact on the price of the goods since monopolies often lead to higher prices.

Such clauses are sometimes not so explicit and the contract needs to be examined carefully. This is the case with clauses obliging the licensee to obtain permission from the

²⁷ The Mexican Law on the Transfer of Technology (1973) cited at UNCTAD doc. *TD/B/AC.11/19/Rev. 1, op. cit.* 10 at parag. 201.

²⁸ Blakeney, *op. cit.* 15 at pp. 41-48.

²⁹ *Id.*

licensor before any agreement between the licensee and a competitor is reached.

Grant back clauses can also be regarded as measures adopted by the licensor to avoid competition and technical development by the licensee.

Also, the imposition in the agreement of an obligation on the part of the licensee to produce a certain quantity of a product (quota) can be harmful to the licensee. The attempt by the licensor to limit suppliers of the goods produced by the licensee, so that prices can be maintained in the market, can damage the production unit of the licensee and can restrict the availability of the product. Furthermore, setting production levels can result in heavy pressure on the licensee (especially in non-competitive markets).

2.2 The Reaction of Developing Countries to the Abuses and the International Intellectual Property Rights System:

In an attempt to overcome these problems, developing countries started looking for legislative solutions. This period of discontentment began in the sixties and reached its peak during the seventies. In order to make the intellectual property rights system more satisfactory instruments in the industrialisation process and to reduce the costs of the system, the action they took was twofold: Firstly, a series of measures was enacted to weaken the patentee's rights in their markets.³⁰ Secondly, developing countries sought changes in the Paris Convention to modify the traditional concept of a patent and the objectives and principles of the international patent system. In addition, they requested the creation of international rules that could facilitate the transfer of technology to their markets.

³⁰ A study of some of the measures adopted by them will be carried out in the next chapter. Brazil will be our study case.

2.2.1 The Revision of the Paris Convention:

One of the principal areas of concern was the increasing importance the patent system was having on the transfer of technology. For many years, developing countries had hoped the patent system would attract technology from developed countries, but the expected result did not materialise.

At the United Nations General Assembly in 1961, Brazil pointed out the negative effects that the present international patent system was having on the economic process of development.³¹ Brazil, at that time, was the only developing country which remained in the Paris Union.

After initial hesitation, the United Nations approved the possibility of further studies into the effects of the patent system on the economic development of developing countries.³²

The resolution requested that the Secretary General of the United Nations, working with the governments concerned, prepare a report containing:³³

- "a) A study of the effects of patents on the economy of under-developed countries;
- b) A survey of patent legislation in selected developed and under-developed countries, with primary emphasis on the treatment given to foreign patents;
- c) An analysis of the characteristics of the patent legislation of under-developed countries in the light of economic development objecting taking into

³¹ Although Brazil was the first country to raise this problem at the United Nation General Assembly, economists had already been systematically presenting the negative impact the international patent system was having on the development of the developing countries. Edith Penrose says: "A few individual countries may gain from the system in which foreign patents are permitted. Industrial exporting countries obtain monopoly profits resulting from the increased price of exports, in some instances patent protection may enable exporting countries to retain a market against competitors or to surmount tariff barriers. The majority of countries, however, probably lose, since the higher price of patented imports, royalty payments to foreign patentees and in particular the restriction on their own use of new techniques constitute a cost much greater than is generally realised and the benefit derived from patent protection in foreign countries is much less than is usually assumed". See Penrose, *op. cit.* 15 in Chapter One at pp. 226-227.

³² UN General Assembly- Resolution 1713 (XVI), *The Role of Patents in the Transfer of Technology to Under-developed Countries*, 1962 in Series I- Resolution adopted by the General Assembly- v. VIII at p. 251.

³³ *Id.*

account the need for the rapid absorption of new products and technology, and the use in the productivity level of their economies;

d) A recommendation on the advisability of holding an international conference in order to examine the problems regarding the granting, protection and use of patents, taking into consideration the provisions of existing international conventions and the special needs of developing countries, and utilising the existing machinery of the International Union for the Protection of Industrial Property".

This resolution led the Secretary-General to submit his report in 1964 under the title of "The role of patents in the transfer of technology to developing countries".³⁴ According to this report, the principal action necessary to modify any negative economic impacts were a review of the international convention on patents; the identification and reduction of obstacles to the transfer of technology to developing countries; and improved access to patented and non-patented technology.

The need to review the international patent system came from the discovery that this system was acting negatively on the developing countries' development and blocking the absorption of the technology transacted.

The patent system has as its primary goal industrial development, achieved by stimulating the creation of new techniques applicable to improve productive factors and to increase productivity. Its dynamic is the legal protection given to the owner of an invention to exploit it monopolistically in exchange for the disclosure of the invention, thus fostering the dissemination of technical knowledge.³⁵ At the same time as the government of a country gives a reward to an inventor in the form of a monopoly, it ensures that the public will have access to the technology developed by the patentee.

The granting of a patent is made after careful examination of the patentability of the invention. The examination is carried out by the agents of a competent Patent Office that ensures that the novelty and other patentability requirements are fulfilled.³⁶

³⁴ There is an updated version: *The Role of the Patent System in The Transfer of Technology to Developing Countries*, 1975 United Nations Conference on Trade and Development (UNCTAD) doc. TD/B/AC.11/ 19 Rev. 1.

³⁵ Beier, Friedrich-Karl and Strauss, Joseph, "The Patent System and Its Information Function- Yesterday and Today" [1977] 8 IIC at p. 387.

³⁶ See previous chapter for the more detailed aspects of patents. Also see Kunz-Hallstein, *op. cit.* 1 at p. 649.

The granting of a patent is made according to the rules existent in the territory of a single state. In this respect, patent law is subject to the principle of territoriality. Thus, in order to have his invention protected in different states, a patentee will have to apply for a patent in each of the states. In this respect, the international convention was introduced to reduce this problem of territorial limitation by providing uniform standards of intellectual property legislation.

The International Convention for the Protection of Industrial Property, is known as the Paris Convention. It was signed in Paris on the 20th March 1883. The legislative history of this Convention is very short since the period of its development was no longer than 10 years.³⁷ It began at the first International Patent Congress held in Vienna in 1873 on the occasion of the World Exposition. The motivation to create an international convention at that time lay in the technological progress which had occurred in Europe and in the United States. Such an advancement needed international protection so that the level of creation could be maintained and fostered, and information could be exchanged without infringement.³⁸

Following the international Patent Congress in Vienna, the French government issued invitations to a new congress to be held in Paris on the occasion of the new World Exposition.³⁹ At that Congress, the delegates were able to agree on the basic principles for the creation of a union for the protection of intellectual property. The text agreed on at this Congress was later discussed in a Diplomatic Conference in Paris (1880). The text was signed by 11 countries in 1883 and, later covered 14 countries.⁴⁰

The examination by the Patent Office guarantees to the patentee and the public that the invention obtained is worth assuring the benefits conferred to it.

³⁷ Beier, Friedrich-Karl, "One Hundred Years of International Cooperation- The Role of the Paris Convention in the Past, Present and Future" [1984] 15 IIC at p. 2.

³⁸ *Id.* pp. 2-3.

³⁹ *Id.* p. 3.

⁴⁰ The signatory countries were consisted of Belgium, Brazil, France, Guatemala, Italy, The Netherlands, Portugal, San Salvador, Serbia, Spain, Switzerland, the United Kingdom and Ireland, Tunisia and Ecuador acceded to the Convention up to its ratification in 1884.

The essential concern of the Paris Convention was, and has been, the protection of industrial property rights (patents, utility models, industrial designs, trademarks, service marks, trade names, indications of origin and unfair competition) and the guarantee that the rules granting the monopoly rights to patent holders are uniform throughout members countries.

In order to promote the protection of intellectual property and to safeguard patentee's rights, the text establishing the Union set down five major goals. The first objective was to disseminate the idea of intellectual property protection. By promoting the need for intellectual protection, the Paris Convention could secure respect for inventions, trademarks and design in different countries.⁴¹ The second main goal was the harmonisation of the legislation on industrial property existing in different countries, based on the establishment of uniform laws. The third goal was to assure a certain minimum of standard for patent protection in all countries of the Union. It is recognised that this goal was not as effective as the International Copyright Convention (Berne), in which the minimum standards were more elaborate. The limitations of this goal rest on the principle of territoriality, still regarded as fundamental by the countries of the Union, especially the developing countries, where a strong nationalist sentiment exists. The fourth goal was to improve the international patent system so that adequate protection could be given by national laws. A practical example of this objective was the holding of revision conferences.⁴² The fifth objective of the Paris Convention was to improve and to rationalise the procedures by which patents were granted. The attempt to rationalise procedures aimed at easing an inventor's efforts to obtain a worldwide patent protection. Ideally this would involve filing only one patent application.

The Paris Convention had a positive impact on legislation and on policy-decisions in developed and developing countries. Aiming to foster economic development through the

⁴¹ Beier, *op. cit.* 37 at p. 5.

⁴² *Id.*

creation of a patent system, countries were interested in acceding to the Convention. The consequent result of this was an increase in the number of countries party to the Paris Convention.⁴³

The proposals to modify the Paris Convention, mentioned above, began with Brazil raising the problem of the impact of the patent system on the economies of developing countries and the role of patents in the transfer of technology to developing countries. The revision of the Paris Convention was regarded as a serious issue in the strategy for the second United Nation's development decade, and the Sixth Special Session of the United Nation General Assembly in 1974 which declared the New International Economic Order (NIEO).

The NIEO represented the expression of the developing countries' desire to obtain a high degree of economic development. This was designated the Third Decade of Decolonisation during which cultural and technological emancipation from the industrialised countries would be achieved.⁴⁴

The establishment of the NIEO was based on "equity, sovereign equality, interdependence and common interest" and aimed to correct inequalities and eliminate the wide gap between developed and developing countries.

In general, there were three fundamental objectives on which the NIEO was based.⁴⁵ The first was to reduce the economic dependence of the developing countries on the developed countries so that developing countries could create their own economic infrastructure and develop according to their own plans. The second objective was to promote economic development based on the principle of self-reliance. The third was to institute changes in the global management of resources in the interest of mankind.

⁴³ Nowadays, the Paris Convention is composed of 100 states. Status on 1st. January 1991. "Paris Convention for the Protection of Industrial Property" [1991] 30 *Industrial Property* at p. 8.

⁴⁴ The previous stages of decolonisation were political independence and economic independence. See Blakeney, *op. cit.* 15 at p. 59.

⁴⁵ Hope, Kemper R., "Basic Needs and Technology Transfer Issues in the New International Economic Order" [1983] 42 *American Journal of Economics and Sociology* at p. 394.

In this respect, technology transfer was listed as a basic principle to the creation of the NIEO:⁴⁶

"(p) giving to the developing countries access to the achievements of modern science and technology, and promoting the transfer of technology and the creation of indigenous technology for the benefit of the developing countries in forms and in accordance with procedures which are suited to their economies."

This principle was, and has been, regarded by the developing countries as essential to the attainment of the latest technology developed by the industrialised countries. They believe that technology is to be regarded as a universal heritage. Therefore, technology must be transferred to developing countries so that they can develop themselves and the objectives of the NIEO are achieved.⁴⁷

In the Seventh Special Session of the United Nations General Assembly in 1974, the programme of action of a New International Economic Order was declared. Amongst the political measures to be taken, and recommendations made, were the formulation of an International Code of Conduct for the Transfer of Technology⁴⁸ and the Revision of the International Patent Convention.⁴⁹ The developing countries urged that the Stockholm Act should be revised in order to be a more effective instrument in their economic and

⁴⁶ See United Nations- Resolution 3201(S-VI), *Declaration on the Establishment of a New International Economic Order*, 1974 Sixth Special Session of the General Assembly.

⁴⁷ The idea that technology is a "universal heritage" has been taken seriously by developing countries. The dependence on past information and knowledge to invent something can show, according to developing countries, that technology must not be looked upon as a commodity but as a natural resource, water and minerals.

It is believed that the present countries' integration, the market globalisation and the fast flow of information seen have reached such a level that no one can say he alone has invented something since no one who invents something starts from nothing.

In this context, Michael Pendleton has understood the fact that since information is a common heritage and that society is entering into an information-base stage of development, the present intellectual property system can be inadequate.

The new legal order will have to satisfy the deviser's interest; his competitor's search for freedom to innovate what was discovered; the consumer's interest in keeping the market competitive so that prices can be lowered and the quality of goods improved; the public interest to have access to information; and the interest of developing countries in order to be a complete and adequate legal order. See Pendleton, Michael, "Intellectual Property, Information-Based Society and a New International Economic Order- The Policy Options?" [1985] 2 EIPR at pp. 31-34.

⁴⁸ See United Nations- Resolution 3202(S-VI), *Programme of Action on the Establishment of a New International Economic Order*, 1974 Seventh Special Session of the General Assembly

⁴⁹ See United Nations- Resolution 3362(S-VII), *Development and International Economic Co-operation*, 1975 Seventh Special Session of the General Assembly.

technological development.

The analysis of the proposed changes in the Paris Convention will be made under the four fundamental principles of the Convention:

2.2.1.1 National Treatment:

The principle of national treatment is defined according to Art. 2(1) of the Paris Convention as:

"Nationals of any country of the Union shall, as regards the protection of industrial property, enjoy in all the other countries of the Union the advantages that their respective law now grant, or may hereafter grant, to nationals; all without prejudice to the rights specially provided for by this Convention. Consequently, they shall have the same protection as the latter and the same legal remedy against any infringement of their rights, provided that the conditions and formalities imposed upon nationals are complied with."

This principle, which prevents any country discriminating between national and foreign inventors when granting patents, was one of the points criticised by the developing countries. According to them, and basing their arguments on the 1977 UNCTAD report,⁵⁰ the fact that foreign companies control a large part of the patents in their countries but have not exploited them, created an unfair situation for domestic applicants which is accentuated by the principle of national treatment.

It was believed that national treatment could only work insofar as as the rates of economic and technological development of two countries were the same. When the parties were at different economic levels, the principle gave the stronger party the opportunity to strengthen its power to the detriment of others.

⁵⁰ See UNCTAD, *The International Patent System- The Revision of the Paris Convention for the Protection of Industrial Property*, 1977 UNCTAD doc. TD B/C.6/AC.3/2.

Thus, the objective of preferential treatment, required by developing countries, aimed to correct the imbalances between developed and underdeveloped countries in economic and technical areas. In this respect, modifications such as different criteria of patentability, different patent duration and easier revocation of a patent were proposed to improve the system.⁵¹

Insofar as the different criteria of patentability were concerned, it was suggested that the novelty for certain types of patents (in particular improvement patents) should be different. Thus, in order to promote specific sectors and encourage adaptation, novelty should be local instead of worldwide, and such patents should be restricted to domestic patent applicants.⁵²

Different patent durations with longer terms for national patentees and times of patent revocation were proposed to strengthen the position of domestic patentees. In addition, developing countries wanted to change the fees for patent applications, making foreign applicants pay up to twice as much for patent registration as domestic applicants.⁵³ In fact, the increase of fees to foreign applicants could be seen as a way of reducing developing countries' burden in financing the intellectual property system in their countries.

Nevertheless, the adoption of preferential treatment can be considered as retrogressive compared with the situation in the last century when a system of bilateral arrangements existed before the Paris Convention. Moreover, guarantees of protection to patentees would be very sensitive, sometimes conditional on political and economic relation between two countries. This could disrupt the object of the Paris Convention since harmonisation of worldwide patent protection would be damaged. Consequently, this would diminish the role of the intellectual property system.⁵⁴

⁵¹ *Id.* parags. 70-84.

⁵² *Id.* parag. 80

⁵³ *Id.* parag. 81. See also Kunz-Hallstein, *op. cit.* 1 at pp. 654-664.

⁵⁴ See Beier, *op. cit.* 37 at pp. 9-13.

2.2.1.2 Right of Priority:

The other principle of great significance in the Paris Convention is the right of priority set out in Art. 4 (1):

"Any person who has duly filed an application for a patent, or for the registration of a utility model, or of an industrial design, or for the registration of a utility model, or of an industrial design, or of a trademark in one of the countries of the Union, or his successor in title, shall enjoy for the purpose of filing in the other countries, a right of priority during the periods hereinafter fixed."

This Principle reflected the great desire of the delegates to establish a "Universal Patent" where the obtaining of a patent in one country would result in one having worldwide validity. Moreover, it would have the function of reducing the impact of the principle of territoriality.

Although the inventor, or owner of a patent, who has filed a patent application in one country can claim similar rights in another country within 12 months from the date of filing the first application, they have to comply with the rules, procedures and patentability requirements of that country.

The importance of this principle to the inventor is great. Before the Convention any display of the invention, including a patent application, could prevent the granting of rights to him in another country. the principle thus enables enterprises to evaluate more carefully the market where they want to patent, sell or licence their products/processes before committing themselves.⁵⁵ Not all markets will be of interest to enterprises due to the existence of high costs and low benefits.

Nonetheless, as happened to the national treatment principle, developing countries noted that results differed in applying the right of priority in developed and developing

⁵⁵ See Oddi, A. Samuel, "The International Patent System and Third World Development: Reality or Myth?" [1987] Duke Law Journal at pp. 858-859.

countries.⁵⁶ Thus, the principle of the right of priority could be used to block the development of inventions in developing countries. For example, if an independent invention is made where priority is claimed during the priority period, its patentability will be refused in favour of the foreign applicant. Therefore, it may exclude third parties who, in good faith, develop the same invention. Also, it may hinder the development of research developed by domestic enterprises. Consequently, developing countries proposed a reduction in the priority period.

2.2.1.3 Independence of Patents:

Art. *4bis* of the Paris Convention sets out this principle which aims to respect the sovereignty of all countries:

"Patents applied for in the various countries of the Union by nationals of countries of the Union shall be independent of patents obtained for the same invention in other countries, whether members of the Union or not."

The rationale behind this principle is that each patent application will be examined in accordance with the rules and standards of each country. Also, the validity of the patent will be tested according to the law of the particular country.

The independence of patents principle was regarded as contrary to the national treatment principle since different rules would be applicable to foreign or domestic patentees.⁵⁷

This principle can be considered to be a consequence of the understanding that although the Paris Convention seeks the harmonisation of rules, it respects the freedom of countries to decide the level of protection.

⁵⁶ See UNCTAD doc. TD/B/C.6/AC.3/2, *op. cit.* 50 at parags. 61-63.

⁵⁷ Penrose, *op. cit.* 15 in Chapter One at p. 74.

The principle can be regarded as of great value to developing countries since it allows them to adopt different standards of protection without being threatened with expulsion from the Convention. Such freedom includes the possibility of establishing conditions for the working of the patent such as compulsory licences to prevent abusive use of the exclusive right.

Nevertheless, the UNCTAD report has raised serious issues which place the principle of the independence of patents against the economic development of developing countries.⁵⁸

According to the report, the principle of the independence of patents poses a serious problem to developing countries when the annulment of a patent due to fraud, lack of industrial novelty etc, in one country, does not extend to others.⁵⁹ This situation is usually seen in developing countries where a shortage of technical staff in a Patent Office does not allow them to examine a patent application properly, or examine the alleged cases of annulment. This is what happened in early 1970 when the United States Justice Department obtained the cancellation of a patent concerning ampicillin-Trihydurate on the grounds that it had been granted by fraudulent means.⁶⁰ The same invention was patented in more than 60 countries and in 1968, the worldwide sales by one company alone were approximately US\$ 170 million, despite the U.S. annulment decision. Thus, the main costs would be those concerned with the granting of privileges such as the technical engagement of the Patent Office in the examination process, and the health risk people in developing countries can face.

A suggested reform made by the developing countries was the incorporation in the Convention of a clause which obliges a person seeking protection in one country to make the results of his application known in other countries. Also, the authorities of a country should report to others the result of applications made in its Patent Office (compulsory

⁵⁸ See UNCTAD doc. TD/B/C.6/AC.3/2, *op. cit.* 50 at parags. 66-75.

⁵⁹ *Id.* parag. 67.

⁶⁰ *Id.* parags. 67-68.

exchange information).

2.2.1.4 Importation and Working Requirements:

The fourth Principle of the Paris Convention is found in the wording of Art. 5A. This principle is regarded as very important to developing countries since it deals with the patentee's obligation to manufacture the invention in the place where it was granted the patent. Manufacture, and its positive effect on the industrialisation process of a country, is considered the main reason countries grant patent monopolies to inventors.

The importation of patented products is regulated by two main provisions of the Convention. The first one is article 5A(1) which permits the importation of the patented product and precludes any member state from forfeiting the patent on the grounds that the patent was not used, but goods embodying it were imported into the country.⁶¹ The second is article *Squarter*.⁶²

The principle of importation was primarily established against the French legislation which imposed penalties for the importation of patented products by the patentee, and as a response to the criticism of the anti-patent movement that the patent system could hinder the inflow of international trade.⁶³

The principle of importation plays a very important role in guaranteeing a patentee's rights, since the importation of the patented object is a proof that the patent is working in a country. Thus, the patent is not considered abusive, and remedial provisions, such as

⁶¹ Art. 5A(1): "Importation by the patentee into the country where the patent has been granted of articles manufactured in any of the countries of the Union shall not entail forfeiture of the patent."

⁶² Art. *Squarter*- "When a product is imported into a country of the Union where there exists patent protecting a process of manufacture of the said product, the patentee shall have the rights, with regard to the imported product, that are accorded to him by the legislation of the country of importation, on the basis of the process patent, with respect to products manufactured in that country."

⁶³ According to the French authorities, forfeiture of imported patented products was aimed to force the working or the manufacture of a patent thereby ensuring that the patent is used in the country where the patent was granted. An interesting analysis of the importation controversy during the 19th century see Penrose, *op. cit.* 15 in Chapter One at pp. 75-77.

forfeiture and compulsory working, cannot be applied for.

Nowadays, the principle of importation plays an increasingly important role. Market interaction throughout the world has made companies, especially owners of technology, invest overseas. However, it is economically impossible and disadvantageous for companies to invest in the production and manufacture of the patented product in each individual country. The advantages of manufacturing a patented product in a country will be conditioned by the environment for production, in particular the availability of cheap labour, the size of the market and of the industrial infrastructure. The importation principle is seen as the most viable way to make the public benefit from the patent and avoid large losses by patentees. Moreover, countries will be better off if they provide incentives for imports that are more cheaply produced overseas. It can be an incentive for market competitiveness. In addition, it is believed that importation, in such cases, favour local consumers since the prices of the goods are much lower.

Nevertheless, many developing countries consider this principle contrary to the public interest. They believe this principle forecloses the use and the manufacture of a product in a country thereby inhibiting domestic production and industrialisation.⁶⁴ According to them, a patent can only be legitimised if it is effectively worked not simply imported.

Some developing countries therefore sought revision of this principle by the deletion of article 5A(1), alleging that it had harmful effects on their economic development.

Furthermore, developing countries have condemned art. 5*quarter*. They consider this article excessive since the patentee, in addition to having a monopoly on the

⁶⁴ The working requirement was not a novelty to the delegates of the Paris Convention. From the 14th century onwards, the purpose of granting a patent, especially to foreigners, was, in England, the obligation to introduce the invention and manufacture it. It is believed that the obligation to manufacture included the achievement of a determined scale to meet a demand and provide accessible prices: "Where the obligation to introduce the industry is not explicitly expressed it may, nevertheless, be inferred from the existence of equivalent clauses such as the apprenticeship or efficiency clause.

The apprenticeship clause... applied only to foreigners, and was intended to secure the continuity of the industry in case of the withdrawal of the patentees at or before the expiration of the term of their monopolies. Clauses providing for the inspection of the manufacture or fixing a minimum output are also occasionally to be found in the patent rolls of Elizabeth." See Hulme, *op. cit.* 25 in Chapter One at p. 34.

manufacture of the patented product, will also control the commercialisation of the product.⁶⁵ Therefore, it is believed that developing countries do not derive any benefit from this article.

As already said, the working of a patent in developing countries constitutes the most important reason for granting patents to an inventor. When a patent is worked, it guarantees industrialisation and helps create a technological infrastructure which leads to economic development.

In developing countries, it was reported that only a very small proportion of patents granted in such countries were directly exploited and worked.⁶⁶

The fact that a patent is not worked in the place where it was granted is seen by developing countries as a strategy to maintain the market monopoly and to eliminate competition.

The non-working of a patent has been tackled by the Paris Convention through the provision of compulsory licensing in article 5A(2) and 5A(4):

Art. 5a (2): "Each country of the Union shall have the right to take legislative measures providing for the grant of compulsory licences to prevent the abuses which might result from the exercise of the exclusive rights conferred by the patent, for example, failure to work."

Thus, countries have the power to establish compulsory licensing requirements in order to foreclose any abuse of the patent monopoly.

Although countries of the Union can take legislative measure to regulate compulsory licensing, the Paris Convention has limited their power to impose such licensing by establishing minimum requirements (Art. 5A (4):

⁶⁵ See UNCTAD doc. TD/B/C.6/AC.3/2, *op. cit.* 50 at parags. 50-54.

⁶⁶ *Id.* parags. 26-28.

"A compulsory licence may not be applied for on the grounds of failure to work or insufficient working before the expiration of a period of four years from the date of filing of the patent application or three years from the date of filing of the patent application or three years from the date of the grant of the patent whichever period expires last; it shall be refused if the patentee justifies his inaction by legitimate reasons. Such a compulsory licence shall not be non-exclusive and shall not be transferable even in the form of a sub-licence, except with that part of the enterprise or goodwill which exploits such licence."

The objective of this minimum requirement has been to give a period to the patentee to make his invention work.

According to the developing countries, this minimum period and the requirements existent in article 5A (4) are contrary to their interests and pose problems for them.

The first big problem is the period of time conceded to the patentee to put his invention into practice, normally three to four years. This period added to the priority period may give four to five years of monopoly to the patentee. Moreover, this period is extended if one agrees that prior examination is needed before granting a compulsory licence.

Another problem with compulsory licensing is the difficulty of being able to work a patent. Although a patent contains information about the invention, it does not necessarily say how this information should be used industrially (know-how). Know-how is not normally present in the patent application therefore making it difficult to exploit the invention.⁶⁷ Also, the fact that a compulsory licence is not exclusive is believed to affect licensees negatively. They will not have the exclusivity needed to offset quickly the expenditure made in order to commence the working of a patent.⁶⁸ Finally, the granting of compulsory licensing is conditional on a series of requirements which can be onerous being met by the licensee.⁶⁹

⁶⁷ An alternative way was contained in the Mexican law on inventions and trademarks of 1976. This obliged the patentee to supply the information able to exploit the patent to the licensee. The non-fulfillment of this requirement entailed the revocation of the patent (art. 51). See UNCTAD doc. TD/B/AC.11/19 Rev. 1, *op. cit.* 10 at parag. 34.

⁶⁸ *Id.* parag. 35.

⁶⁹ One example is the Brazilian Code of Intellectual Property which obliges the licensee of the compulsory licensing to work the patent within 12 months and to work it properly according to the terms of the licence (art. 35 and 36).

As a result of the difficulties involved in implementing compulsory licensing, developing countries made a draft proposal for preferential treatment to grant exclusive compulsory licences (called non-voluntary licences):⁷⁰

"Art. 8- Any non-voluntary license shall generally be non-exclusive and shall not be transferable... However, in special cases where exclusive licenses are necessary to ensure local working, such exclusive license may be granted for a period of up to [six][three] years subject to the condition that the patent may not be forfeited or revoked for insufficient working for a further period of [one][two] years after expiration of the exclusive license."

In addition to proposing that compulsory licences should be exclusive, the Draft, in its other arts., defines the situation in which such licences are to be granted: non-working and insufficient working. It also provides for the expropriation of a patent on the grounds of public interest, even in cases where the patentee is adequately working the patent.⁷¹ Furthermore, preferential treatment was to be given to developing countries concerning the forfeiture and/or revocation of the patented invention, in cases of non-working, before the expiration of the period (3 years). In addition, it proposes a reduction in the time allowed for commencing working a patent hence the period will run from the date the patent was granted.⁷²

In the particular case of forfeiture, there are no substantial changes proposed:⁷³

"Forfeiture of the patent shall not be provided for except in cases where the grant of non-voluntary licenses would not have been sufficient to prevent the said abuses. No proceeding for the forfeiture or revocation of the patent may be instituted before the expiration of two years from the grant of the first non-voluntary license."

⁷⁰ Draft text of basic proposal for article 5A. Cited and taken from Haar, *op. cit.* 11 at Appendix D.

⁷¹ Art. 5- "Any country of the Union has the right to provide in its national law where the exploitation of the patented invention is required by reason of public interest, in particular, national security, nutrition, health or the development of other vital sectors of the national economy, for the possibility of exploitation, at any time of the patented invention by the government of that country or by third persons authorised by it."

⁷² See Draft text of basic proposal for article 5A- art. 8 (a) and (b). cited and taken from Haar, *op. cit.* 11 at Appendix D.

⁷³ *Id.* article 3.

However, the draft gives preferential treatment to developing countries in the case of forfeiture. According to art. 8 (b), a patent can be forfeited without the intermediary step of requiring compulsory licensing unless the patentee justifies the non-working of a patent to the competent national authorities for forfeiture.

The changes in the Paris Convention required by developing countries, especially those related to preferential treatment and working requirements, met with strong opposition from delegates from developed countries. According to them, the changes required by developing countries would distort the principles of the Paris Convention and would reduce drastically the level of protection offered to patentees. Furthermore, they believe that the sort of protection required by developing countries would favour a closed and autarchic economy. This would be inconsistent with the principles of the NIEO.⁷⁴

2.3 The UNCTAD Creation and the Desire to Improve the Environment for the Transfer of Technology:

The existence of restrictions imposed by the licensor, when transferring technology has, for a long time, provoked condemnation by developing countries. Their main complaints revolve around the obstacle these restrictions place on access to the latest technology, its absorption, and the high price charges by licensors.

Developing countries felt that an efficient way to reduce restrictive provisions to technology transfer would be the creation of international standard rules applicable to these contracts. The belief that regulating technology transfer agreements and creating safeguard measures against abuses in technology transfer transactions could act positively towards a greater inflow of technology and greater economic advancement of developing

⁷⁴ See Boros, Radu, "Industrial Property in the New International Economic Order" [1982] 11 EIPR at pp. 304-306.

countries was expressed and treated seriously in the General Assembly of the United Nations in 1970:⁷⁵

"Developed and developing countries and competent international organisations will draw up and implement a programme for promoting the transfer of technology to developing countries, which will include *inter alia*, the review of international conventions on patents, the identification and reduction of obstacles to the transfer of technology to developing countries under fair and reasonable terms and conditions, facilitating the technology transferred to developing countries in such a manner as to assist these countries in attaining their trade and development objectives... and measures to accelerate the development of indigenous technology".

The commitment to change technology transfer arrangements came at the same time as the establishment of the NIEO by the United Nations. The resolution of the Economic and Social Council of the United Nations to adopt the UNCTAD study and to examine the different national and international laws on technology transfer led to UNCTAD's commitment to investigate the possibility of adoption of international regulations of technology transfer.⁷⁶

In the Sixth Special Session of the United National General Assembly in 1974 (Programme of Action on the Establishment of the NIEO),⁷⁷ the formation of an international code of conduct for the transfer of technology was proposed.

The object of this Code was to prevent existing restrictions and objections, and to seek a fair balance between the interests of a supplier of technology and its recipient.

In 1970, UNCTAD established an intergovernmental group of experts and, in 1974, the first elaboration of a Code of conduct was undertaken by this group of experts under the guidance of the Pugwash Conference on Science and World Affairs.⁷⁸

The group of experts on the transfer of technology, through a resolution in July

⁷⁵ See United Nations Resolution 2626, *op. cit.* 3 at parag. 64.

⁷⁶ See ECOSOC Res. 10/5 (XXXVIII) of 27th July 1964. See also, Blakeney, *op. cit.* 15 at p. 312.

⁷⁷ See United Nations Resolutions, *op. cit.* 48 and 46.

⁷⁸ Thompson, Dennis, "The UNCTAD on Transfer of Technology" [1982] 16 J.W.T.L. at p. 312.

1974, requested the Secretariat General of the UNCTAD to introduce a Code of conduct on technology transfer.⁷⁹ The Intergovernmental Group concluded that a Code of conduct could be established. Consequently, draft proposals were put forward by the member countries.

An important characteristic of the negotiations on the Code has been the dramatically opposed views and interests on technology transfer issues of the member states.

The politicisation of the subject has led to the organisation of two main groups in the UNCTAD forum of negotiations. Firstly, Group 77 was formed by the developing countries. Their main interest was to make developed countries' governments take adequate measures to facilitate the access of technology. Also, they wanted the establishment of equitable terms for technology transfer contracts without harming their interests.⁸⁰ The second group is represented by the OECD (Organisation for Economic Cooperation and Development) countries (called Group B). Its desire has been to establish guidelines on technology transfer contracts that could be used by the parties so as to reduce alleged restrictive measures. However, its view is that government intervention should be prevented.⁸¹

Here, the presentation of draft proposals by both groups were marked by strong differences. However, this allowed both sides to be aware of each other's expectations and it opened up the international arena for negotiations.⁸²

⁷⁹ *Id.*

⁸⁰ Timberg, Sigmund, *The Impact on the Transnational Corporation on the International Code of Conduct on the Transfer of Technology* [1981] 12 IIC at pp. 134-135.

⁸¹ The main alleged interest of developed countries in the UNCTAD forum has been the political contribution that the Code could make towards a favourable environment for transnational companies. The fact that such countries were willing to negotiate could have led to the minimising of the ideological understanding that developed countries and their transnational companies aimed to exploit the developing countries. See Sell, Susan K., "Environment for Technology Transfer Grows Tighter" [1989] 24 *Les Nouvelles* at p. 181.

⁸² The Mexican proposal, on behalf of the Group 77, elaborated a draft containing 40 prohibited restrictions, a chapter of guarantees to be complied with by the supplying party, special treatment for developing countries, a procedure settlement for disputes, and a proposal to define the applicable law. Moreover, the Code was mandatory and it involved parties such as private, public, regional and international groups.

The Group B's draft, on the other hand, had, as points of paramount importance, the understanding that general rules of contract should be non-binding, and that provisions should be of general and voluntary character, consisting of guidelines for the parties. Thompson, *op. cit.* 78 at p. 313.

The third proposal was later presented by the former Soviet Union, as representative of Group D countries and Mongolia. This proposal concentrated mainly on the principles of sovereignty, political and economic independence and the elimination of any sort of discrimination and harmful limitations in technology transfer agreements.

The intergovernmental group of experts had the task of agreeing on a draft text that could be put before a diplomatic conference.⁸³ Although the intergovernmental group prepared a draft containing the different position of each group, the Negotiating conference has been unable to conclude an agreed text Code.⁸⁴

The General Assembly of the United Nations of 5th December of 1986, in its resolution n. 41/166 requested the Secretary-General of the UNCTAD to finalise consultations with the representatives of member countries.

The central and most contentious point of the negotiations point has been the legal effect of the Code on technology transfer (Paragraph 12 and 13).

To the developing countries, the Code should be legally binding so that all countries and respective enterprises are obliged to observe its terms. Group 77 believes that if the provisions of the Code are not binding, transnational companies will not observe it. Therefore, the Code will be a dead letter.⁸⁵

The result of this proposition by Group 77 was totally unacceptable to Group B. Group B believes that the Code has to be voluntary, with non-binding guidelines and standards of behaviour. The practical application of a mandatory adherence to the TOT (technology transfer) Code, if implemented, it is believed, would be disastrous. First of all, there is the difficulty involved in making the agreement compulsory. It would be

⁸³ In international negotiations, it is the practice to have a common text based on advanced agreement with brackets. However, the peculiarity of these negotiations (different and wide positions) made the intergovernmental group start negotiating at the periphery. They brought together the points that were agreed or that could be agreed upon or negotiated. *Id.* p. 314.

⁸⁴ Negotiating Conferences were held in October and November 1978, 1979, 1983, 1985 and 1987. These Conferences were able to settle most of the differences existent in the draft Code. The main settlement reached was the contents of restrictive business practices. See UNCTAD, *Negotiations on a Draft International Code of Conduct on the Transfer of Technology*, 1987 UNCTAD doc. TD/CODE TOT/51 at parags. 2.2. See also Blakeney, *op. cit.* 15 at p. 312.

⁸⁵ Thompson, *op. cit.* 78 at pp. 317-318.

necessary to convene an international convention open for signature and ratification by the participating countries.⁸⁶ Then, after a country ratifies the Code, it would be necessary to enforce it on all commercially active companies. Secondly, the laws of all signatory countries, especially those related to anti-trust and intellectual property law would have to be amended in order to comply with the Code.⁸⁷ This would be costly and time-consuming. Thirdly, there could be difficulties in applying the Code to transnational companies. The legal and managerial nature and structure of these companies allows them to escape restrictive laws by moving their commercial and/or administrative activities from one country to another.⁸⁸ Also, the application of the Code to contracts involving a parent plant and its subsidiary in another country can pose problems.⁸⁹

For these reasons, it is said that a voluntary Code is better. Firstly, no bureaucracy is needed thereby making the application of the Code easier. Secondly, it is believed that even though only providing guidelines, the Code will be respected by countries. It is known that certain guidelines are taken and applied seriously by countries' governments as being rules.⁹⁰

Another point of conflict has been the applicable law and settlement of disputes. The reason for the conflict is that this subject has always been accompanied by theories of national sovereignty and feelings of national pride.

In relation to the choice of law, general disagreement existed prior to the 6th Session of the United Conference on the technology transfer Code in 1987. The main trouble was Group 77's belief that the law applicable to such contracts should be that of the recipient party for reasons of public policy and of sovereignty.⁹¹ Groups B and D proposed that the choice of law would be determined by the rules of private international law.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ Timberg, *op. cit.* 80 at pp. 144-145.

⁹⁰ Thompson, *op. cit.* 78 at pp. 318-319.

⁹¹ See Blakeney, *op. cit.* 15 at p. 158.

The present text was proposed by the President of the Conference during its Sixth Session:

"Parties to transfer of technology transactions may, by common consent, choose the law applicable to their contractual relations, it being understood that such choice of law will not limit the application of relevant rules of national legal system which cannot be derogated from by contract."

Doubts still exist in cases where no agreement is reached on the choice of law. Group B and D have agreed that in the absence of such agreement the national courts should apply the relevant conflict of law rules. If it is an arbitration tribunal, the rules it considers most applicable shall apply.⁹²

The dispute settlement provisions of the Draft Code were also proposed by the President of the Conference in the 6th Session. The procedure for resolving disputes is as follows:⁹³

(A) Conciliation: Paragraph 9.2 establishes that both parties commit themselves to settle disputes in an amicable way by negotiating directly between themselves or by adopting a conciliation procedure.

The fact that private conciliation is considered to be the first step to resolving disputes highlights the importance the Code gives to the principle that the parties are free to resolve problems in the contract by themselves.

(B) Arbitration: A second step to resolve disputes is that the parties can seek arbitration including appeal in cases where the dispute is arbitrable under the laws of the parties involved.⁹⁴

(C) International arbitration: As a complement to the right of the parties to have a recourse to arbitration, the Code encourages the parties to accept rules of international

⁹² Thompson, *op. cit.* 78 at p. 334.

⁹³ Blakeney, *op. cit.* 15 at pp. 149-150.

⁹⁴ *Id.*

arbitration such as the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL).

The incentive given by the President's proposal in forcing the parties to accept international arbitration is due to the fact that developing countries have been sensitive about sovereignty and have maintained that their tribunals should have jurisdiction over disputes.

This concern of developing countries over the abrogation of sovereignty reached a peak following judgements in the cases of *The Aramco*⁹⁵ and *Saphire*.⁹⁶ In both cases it was agreed that agreements between states and companies are governed by the principle of *pacta sunt servanda*. This excludes the applicability of the law of the state involved in the agreement.

2.4 Consequences of This Policy:

One interesting point to be noted is that the action on the part of developing countries to weaken the protection of intellectual property through the revision of the Paris Convention, and to make technology transfer rules more equitable and protective to local licensees by requiring the creation of an international Code of conduct, was followed by the adoption domestically of restrictive measures on intellectual property and technology transfer domestically. The direct consequence of this has been to ease the way for spurious activities such as counterfeiting and technology misappropriation.

Using very cheap raw materials and the cheap labour abundant in developing countries, and without paying the costs for investing in R & D, marketing and building up the goodwill of a mark, counterfeiters have obtained profits of millions of dollars. In

⁹⁵ *Saudi Arabia v. Arabian American Oil Company* [1963] 31 Int. L. Rep. 117.

⁹⁶ *Saphire International Petroleum Ltd. v. National Iranian Oil Company* [1967] 35 Int. L. Rep. 136.

exchange, they have produced low quality goods, often at the expense of financial losses to industries and even of people's lives.⁹⁷ Between 1960 and 1980 especially, counterfeiting activities grew significantly in the world market. Nowadays, it is believed that counterfeited goods are estimated to account for 10% of world trade, which may be equivalent to a volume of US\$ 70 billion *per annum*.⁹⁸ This estimate shows the commitment and organisation of the counterfeiters who have created a network conspiracy across all continents.

These counterfeit activities have burdened the commercial and the financial situation of industries, and affected the economic development of countries. According to statistics, it is believed that the commercial losses of American industries due to counterfeit activities has reached the amount of about six to eight billion dollars.⁹⁹ This is equivalent to five percent of the U.S. merchandise trade deficit of US\$ 175 billion in 1986. In China alone, American industries are reported to lose more than US\$ 400 million *per annum* in sales because of copyright violations. Counterfeiters also create job losses in the EC countries of around 200,000 *per annum*.¹⁰⁰

Another consequence of the developing countries' action and the growth of counterfeit activities has been the refusal of transnational companies to invest, manufacture or market their patented products in countries where inadequate protection is given.

According to Rapp and Rozek,¹⁰¹ this legal insecurity existing in developing countries has led companies to concentrate much of their technological R & D in developed

⁹⁷ A recent comparison was done between a medicine called Feldine made by the Pfizer Laboratories with one made by a Thai copycat industry called Fe cam. Physically both medicines were identical in two colours - red and blue - however, the contents of the pills were different. One contained harmful effects. Only 54% of the Thai version could be absorbed by a patient's body. In the case of Pfizer drug, 97% of it was absorbed. Another example of this fake is the death of a person in Thailand who took a copycat pill and his body was unable to absorb it, killing him. See "The Pill Pirate", Newsweek, 5th November 1990 at p. 20.

The Thai government has justified its lack of appropriate intellectual property protection and its policy of allowing the counterfeiting of pharmaceutical goods due to the increasing price of multinational pharmaceutical drugs. "It is better for people to have a little of medicine than no medicine at all."

⁹⁸ See Uchtenhagen, Ulrich, "The GATT Negotiations Concerning Copyright and Intellectual Property Protection" [1990] 21 IIC at p. 770.

⁹⁹ Dam, Kenneth W. "The Growing Importance of International Protection of Intellectual Property" [1987] 21 International Lawyer at p. 628.

¹⁰⁰ See "China Copyrights still Fought by U.S." International Herald Tribune, 17th June 1991 at p. 5.

¹⁰¹ See Rapp and Rozek, *op. cit.* 119 in Chapter One at pp. 86-89.

countries. This seems to be the case with pharmaceuticals where 70% of the (Pharmaceutical Manufacturers Association) P.M.A. firm's expenditure on R & D abroad is in Western Europe.¹⁰²

This widespread insecurity has created an invisible trade and commercial barrier to foreign companies owning technology. This has been regarded as unacceptable by such companies. It has led them to seek the improvement of intellectual property protection, by requiring governments to take steps to tackle the problem.

The government of developed countries have taken international unilateral and multilateral measures.

2.4.1 Unilateral Measures:

Among the unilateral steps taken, Section 301 of the American Trade Act (also known as Super 301) has been considered the most efficient and toughest instrument used to strength protection for intellectual property and to improve the access of American exports and investment in developing countries.

Section 301 has been used as an instrument against the unfair trade practices of foreign governments as well. It is by indicating the existence of unfair trade practices that the American government has tackled the issue of intellectual property protection. An example of this unilateral approach has been the investigation of South Korea, which has not respected the international agreements on patents. In South Korea, American chemical, pharmaceutical and computer software manufacturers have until recently exported their commodities at the risk of losing them. The pressure exerted by the American government forced a revision of the South Korean patent law in 1987 and made the Korean

¹⁰² *Id.*

government involve itself more effectively in intellectual property enforcement and to combat counterfeit activities.¹⁰³ Another example was the inclusion of Brazil under the "Super 301". Brazil had from 1970 to 1992 created a restrictive computer market for domestic industries. Furthermore, Brazil has been neglecting to provide legal protection for pharmaceutical products. It has abused bureaucratic and discriminatory practices for industries applying for patents in favour of domestic enterprises.¹⁰⁴

Although Section 301 of the American Trade Act uses commercial retaliation as its main instrument, it is primarily a trade-liberalising rather than a punitive facility.

Any interested person¹⁰⁵ may require action under Section 301 by filing a petition with the United States Trade Representative (USTR) alleging that:¹⁰⁶

- "a) the rights of the United States under any trade agreement are being denied or
 - b) an act, policy, or practice of a foreign country.
 - i) violate, or is inconsistent with, the provisions of or otherwise denies benefits to the United States under any trade agreement, or
 - ii) is unjustifiable and burdens or restricts United States commerce."

The allegations will be reviewed and analysed within 45 days after which the U.S. Trade Representative (USTR) may approve or not the commencement of the investigation process. If approved, the Trade Representative will initiate an investigation on the basis of what has been alleged and will take every opportunity to allow the presentation of views on the question.¹⁰⁷ Alternatively, the initiation of investigations may be started by the USTR who will file a petition without a request being made.

¹⁰³ See Stanberry, Kurt, "Forging a New International Frontier in Intellectual Property Rights" [1990] 15 World Competition at pp. 118-119.

¹⁰⁴ See Sell, *op. cit.* 81 at pp. 182-183.

¹⁰⁵ Any interested person includes, but it is not limited to, "domestic firms and workers, representatives of consumer interest, United States product exporters, and any industrial user of any goods or services that may be affected by actions taken under section (a) or (b)". See 19 USCS Parag. 2412 (9).

¹⁰⁶ Enforcement of United Rights under trade agreements and response to certain foreign trade practices- 19 USCS Parag. 2411 (a)(1).

¹⁰⁷ See 19 USCS Parag. 2412(4).

The retaliation process against a named country under Section 301 will then be carried out by the USTR. He will evaluate the burden of economic restrictions or lack of appropriate intellectual property protection for U. S. companies.¹⁰⁸ If it is decided that a country has acted unfairly, the Committee can take measures to force the infringing country to stop its unfair action.¹⁰⁹ The kinds of action that might be used by the USTR in order to eliminate unfair practices are: (a) the suspension or withdrawal of benefits conferred by trade agreements between the American government and the other country; or (b) the imposition of duties, fees and import restrictions.¹¹⁰

Section 301 of the Trade Act of 1974 has been internationally condemned due to its strictness in dealing with unfair practices against American industries. It was, however, achieved successful results in the area of intellectual property and high-technology. In practical terms, one can note the 1990 agreement between the two economic superpowers, Japan and the United States. An agreement was reached covering three important areas (supercomputers, commercial satellites and wood products) for which the Japanese promised to widen their market for American business. The result of this Japanese commitment and of the Japan-US agreement has been the withdrawal of Japan from the list of those subject to the "Super 301" trade retaliation.¹¹¹ Similarly, Brazil was withdrawn from the list by the United States administration.¹¹² In this instance, the decision was

¹⁰⁸ "Acts, policies, and practices that are unreasonable include, but are not limited to, any act, policy, or practice, or any combination of acts, policies, or practices which- i) denies fair and equitable- I) opportunities for the establishment of an enterprise; II) provision of adequate and effective protection of intellectual property rights or III) market opportunities, including the toleration by a foreign government of systematic and competitive activities by private firms or among private firms in the foreign country that have the effect of restricting on a basis that is inconsistent with commercial considerations, access of United States goods to purchasing by such firms..." See 19 USCS Parag. 2411(3)(B).

¹⁰⁹ The U.S. Trade Representative shall take action in accordance with the direction of the President of the United States (if any). Thus, the President of the United States will have direct powers to retaliate and make the infringing country eliminate its unfair action. See 19 USCS Parag. 2412 (b)(2).

¹¹⁰ See Bello, J. H. and Holmer, A. F., "U.S. Trade Law & Policy Series #13- Unilateral Action to Open Foreign Markets: The Mechanism of Retaliation Exercises" [1988] 22 *The International Lawyer* at pp. 1197-1206. See also 19 USCS 2411(a)(3)(2).

¹¹¹ The use of the "Super 301" as an instrument of trade war was made by the United States against Japanese products during 1989 and 1990. This strategically correct since nothing is feared by the Japanese Administration and businessmen more than economic isolation and trade tensions with its biggest partner. See "The Great Escape", *Newsweek*, 7th May 1990 at pp. 40-41.

¹¹² Nevertheless, Brazil, as well as Japan, has been on the priority watch list of the USTR. Brazil still fails to provide patent protection to pharmaceuticals, chemical compounds, foodstuffs and biotechnology.

Countries originally placed on the watch list were Argentina, Brazil, Canada, Chile, Colombia, Greece, Egypt, India, Indonesia, Japan, Malaysia, Pakistan, Portugal, South Korea, The Philippines and Turkey. See Gutterman, A. S., "International Intellectual Property: A Survey of Recent Developments and Issues for the Coming Decade" [1992] 8 *Santa Clara*

based on the Brazilian government's action to eliminate its import-licensing system, its commitment to open up its computer market to foreign competitors and the promise that a new intellectual property law would be enacted.

India has also escaped from the imposition of trade sanctions under the provisions of the "Super 301". Although India has been considered as one of the main countries to use unfair trade practices and trade restrictions, the American decision to lift sanctions was due to three reasons. Firstly, the Indian government announced a reduction in its role in approving foreign investment. Secondly, sanctions are seen to be strategically inappropriate at the moment, given the multilateral negotiations on trade and investment in the Uruguay Round. Thirdly, the Indian constructive participation in the Uruguay round.¹¹³

2.4.2 The Uruguay Round Debate. Intellectual Property as a Trade Issue:

The lack of will and commitment by developing countries to guard intellectual property properly, and the absence of powers for international organisations to enforce rules agreed in Conventions and Agreements have caused concern among transnational companies and various governments. The result of this situation has been to regard the enforcement of intellectual property not only as a criminal but also as a trade issue. This view has been expressed by developed countries who have shown that inadequate protection for intellectual property has definite economic effects. In the American case, the main reason for concern on the protection and enforcement of intellectual property rights has been the change in the composition of the U.S. export trade. Since the end of World War II, exports that depend on adequate intellectual property, such as chemical, pharmaceuticals and computers, have more than doubled to approximately 1/4 of U.S. exports.¹¹⁴ The

Computer and High Technology Law Journal at pp 341-346

¹³ India is also on the USTR watch list. See "India Escapes Sanctions Under US Trade Law" *Financial Times*, 15th July 1990 at p. 5. See also Gutterman, *Id.* pp. 941

¹⁴ *Id.* p. 393

United States' government has identified areas within intellectual property that pose problems for the merchandise trade deficit. Among the main points are: (a) The pirating or counterfeiting of goods. Normally, due to the attraction of the American market, pirates import goods into the United States saturating the market, and thereby lowering the price of the genuine goods. (b) The pirating of goods in foreign countries. This activity reduces American participation in international markets. (c) The exportation of pirated or counterfeited goods to third countries which displace United States exports.¹¹⁵ Therefore, intellectual property has become a serious trade matter.

The United States, especially during the Reagan Administration, started treating the enforcement of intellectual property seriously. Besides using unilateral measures, such as the Super 301, the Reagan Administration, led by the USTR together with the Department of Commerce, started adopting a strategy of bringing intellectual property rights into the General Agreement on Tariffs and Trade (GATT).

In fact, it was during the Tokyo Round negotiations in 1978 that the movement in favour of intellectual property as a trade issue commenced. The idea was to take into GATT considerations provisions to deal with the growing international trade in counterfeit goods.

The decision to discuss such issues in the Tokyo Round was due to pressure exercised by industries deeply concerned with the level of international trade in counterfeit merchandise. It started when Levi Strauss Co. decided to pursue stronger protection of intellectual property and sanctions against the international network of counterfeit merchandise.¹¹⁶

¹¹⁵ See Stanback, W. A., "International Intellectual Property Protection: An Integrated Solution to the Inadequate Protection Problem" [1989] 29 Virginia Journal of International Law at p. 517.

¹¹⁶ At that time, Levi Strauss had already won a battle inside the United States aimed at strengthening the American law against counterfeiting. Levi Strauss' action to seek tougher instruments against counterfeit in the United States was marked by its firm commitment and solid arguments that counterfeiting was already a trade issue. This could disrupt the reliability that customers have in the product thereby damaging the goodwill obtained. One of the tactics used by Levi Strauss' was to make available to the Senate Finance Committee a set of genuine Levi's jeans and another set of jeans made by counterfeiters in Taiwan. By doing that, Levi Strauss showed that the counterfeit jeans produced in Taiwan were almost indistinguishable from the originals but of low quality. See Walker, William, "Private Initiative to Thwart the Trade in Counterfeit Goods" [1981] 4 The World Economy at pp. 33-36.

The choice of GATT came about from a process of elimination. Three multilateral organisations were thought inappropriate, or too limited, to offer strong protection. Levi Strauss considered the limitation of OECD being that it comprises only member states from the developed countries. The participation of the developing countries in the discussion of the counterfeit problem was important. The CCC Secretariat (the Customs Cooperation Council), despite its positive attitude to combatting counterfeiting, as expressed in the adoption of the International Convention on Mutual Administrative Assistance for the Preventions, Investigation and Repression of Customs Offences (Nairobi Convention),¹¹⁷ expressed the view that matters such as patents, trademarks and copyright involved in the counterfeit problem were not part of the Nairobi Convention.

The third organisation was the WIPO since it has a natural, obvious and special relationship with the subject. However, the WIPO, through the Paris and Berne Conventions, has been unable to provide adequate legal protection and to make countries adopt adequate standards.

The main problems seen in both Conventions are, as follows: (a) They provide only basic minimum rules inadequate for industrial property rights. In the Paris Convention, only general aspects concerning intellectual property are dealt with.¹¹⁸ (b) They lack powers to force countries to adopt and to comply with the signed Agreement. In this case, the principle of national treatment and the principle of territoriality act negatively in respect of the enforcement of rights since it leaves countries the option to give broad and narrow protection to intellectual property. (c) Lack of dispute settlement procedures. (d) They do not make countries provide adequate national enforcement procedures for those whose rights have been infringed. (e) Any initiative sought to be introduced in WIPO relating to the improvement of intellectual property rights would probably be firmly

¹¹⁷ This Convention, in nut shell, commits governments to work together through exchanging information, deeper examine of imported goods and equipped policemen to control the flow of counterfeit goods.

¹¹⁸ See Benko, Robert P., "Intellectual Property Rights and the Uruguay Round" [1988] 11 *The World Economy* at p. 221.

rejected by many developing countries.

The GATT, then, appeared as a good choice, especially as from 1978 onwards, new attempts to break down protectionism in international trade were being sought.

The GATT Code, relating to the international trade in goods, also possesses two clauses relating to intellectual property and the prevention of deceptive practices. The first clause, IX(6), establishes measures to secure compliance with regulations which are not inconsistent with the Code's provisions.¹¹⁹ The second GATT rule present in the Code is in paragraph (d) of clause XX:

"Subject to the requirement that such measures are not applied in a manner which could constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

(d) necessary to secure compliance with laws or regulation which are not inconsistent with the provision of this agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of article III and article XVII, the protection of patents, trademarks and copyrights and the prevention of deceptive produces."

After defending the necessity of GATT analysing aspects of intellectual property, Levis Strauss supported by some developed countries, especially the United States, decided to seek an anti-counterfeiting Code in the Tokyo Round negotiations. The desire to resolve the counterfeiting problem and intensify the pressure on the countries' representatives involved in the Tokyo Round led to the formation of an association of companies called the "International Anti-counterfeiting Coalition".¹²⁰

¹¹⁹ "The contracting parties shall cooperate with each other with a view to preventing the use of trade names in such a manner as to misrepresent the true origin of a product to the detriment of such distinctive regional or geographical names of products of the territory of the contracting party as are protected by its legislation. Each contracting party shall accord full and sympathetic considerations to request or representations as may be made by any other contracting party regarding the application of the undertaking set forth in the proceeding sentence to names of products which have been communicated to it by the other contracting party."

¹²⁰ At the beginning of the coalition, eighteen companies and trade associations were members: The American Apparel Manufacturers Association, Cartier, Christian Dior Couture, Coca-Cola, A.T. Cross, the Distiller Company, the Federation of Swiss Watch Manufactures, General Electric (the American based group), General Mills, Helene Curtis Industries, Levis Strauss, Moet-hennessy, Munsingwear, Pfizer, Pierre Cardin, Puma Sportshuhfabriken, Singer and Walt Disney Production. See Walker, *op. cit.* 116 at p. 40.

This association was the force that drove home to the United States government the need for something to be done to stop the trade in counterfeit goods. The American government then mobilised as many countries as was possible to accept a proposed anti-counterfeit declaration.¹²¹ A document containing agreed statements expressed the ideas of the delegation as to how to strengthen rules and procedures against counterfeiting. This document was followed by a draft Anti-Counterfeiting Code prepared by the American negotiators, and agreed by the European Community countries. However, the effort to include a draft anti-counterfeiting Code was finally wasted due to the refusal of few developed countries to accede to it. The Director-General of the GATT did not therefore allow it to be part of the agreement open to signature by participating countries.

Despite the failure to agree on an Anti-counterfeiting Code, some positive points can be observed:¹²² Firstly, it showed that the interests of private industries can be a strong instrument to press governments and international organisations to adopt strict rules against illegal acts such as counterfeiting. This is reinforced by the fact that the GATT, since its creation, has been an instrument of change used directly by governments not by companies.¹²³ Secondly, from the Tokyo Round onwards, the GATT has always been recognised as an appropriate forum in which to analyse questions about intellectual property rights.

In practical terms, the GATT has some advantages over the WIPO. Firstly, the GATT is the premier multilateral trade body. It can discuss directly the influence exercised by intellectual property on trade. Secondly, the GATT possesses provisions

¹²¹ *Id.* p. 41.

¹²² The principal objectives of the International Anti-counterfeiting Coalition in proposing a Code were to adopt international agreement on rules concerning the seizure and removal of such goods from the market and to dispose of it then. Moreover, customs officers were committed to stop any counterfeit goods from being re-exported. Thus, counterfeiting would be treated by officers and governments as contraband.

The main dispositions of the draft Code were: (a) that it created a procedure for the trademark owner to request governments to act internally against counterfeiting by seizing or retaining the goods counterfeited; (b) that the disposal of the goods may be done by forfeiture; (c) that the parties involved in the trial have the right to appeal; (d) that it established an international surveillance committee to deal with the settlement or clarification of the Code's provisions. See Walker, *op. cit.* 116 at p. 45.

¹²³ *Id.*

concerning the enforcement and settlement of disputes.¹²⁴ It will ensure that countries, especially developing countries ones, respect the laws approved by the GATT and adopt comprehensive and better legislation on intellectual property protection. If not, they run the risk of suffering retaliatory action.

The task of including the fight against counterfeiting, and a discussion of new laws on international intellectual property into the GATT, is part of the Uruguay Round Negotiations on Liberalisation of Trade, Services and Protection of Intellectual Property.¹²⁵

The Uruguay Round was established in September 1986 at a special ministerial GATT meeting to discuss new rules to preserve the multilateral trade system and liberalise trade rules.

Concern for the impact of lax intellectual property regulations and the impact of counterfeiting and piracy activities on its merchandise trade balance, led the United States to press hard for intellectual property issues to be included in the talks. The inclusion of intellectual property in the Uruguay Round highlights its increasing importance to the liberalisation of the world trade and the belief that the GATT is the right organisation to deal with improving intellectual property protection. The current Uruguay Round is regarded as the most important meeting of the GATT since the settlement of the multilateral trade economic system after the Second World War. Its value to all countries has brought representatives from 107 countries together to discuss the imbalances existing in trade, especially concerning intellectual property. The talks promote dialogue, sometimes considered difficult between the North and the South. Moreover, if an agreement is reached, the provisions agreed by parties can influence 85% of world trade.¹²⁶

Although there was strong initial opposition by developing countries, who took the

¹²⁴ See Petersmann, Ernst-Ulrich, "Strengthening GATT Disputes for Settling Trade Disputes" [1988] 11 *The World Economy* at pp. 60-76.

¹²⁵ The Uruguay Round is the Twelfth Round of negotiations promoted by signatories countries of the GATT agreement.

¹²⁶ Uchtanahagen, *op. cit.* 98 at p. 757. See also, "GATT Disquiet at Lower World Trade Growth", *Financial Times*, 18th March 1992 at p. 6.

view that intellectual property is not a GATT subject,¹²⁷ developing countries have recently showed their willingness to discuss new rules on intellectual property protection. Their willingness has been shown by the presentation of various proposals, especially by Brazil and Mexico.¹²⁸

Recent decisions by developing countries to participate constructively in the negotiations related to intellectual property is due to the realisation that the far-reaching trade liberalisation intended to be reached in the Uruguay Round may bring valuable benefits to them. It will enable developing countries, especially the new industrialising countries, to increase their participation in the international market.¹²⁹ Furthermore, appropriate protection of intellectual property rights will serve to increase the transfer of technology and foreign direct investment from developed to developing countries, as there will be no hesitation or fear that technology will be unfairly appropriated by others.

The commitment of developing countries to negotiate the Uruguay Round has also been shown in their support for the creation of an international Code on intellectual property and their support for the conversion of GATT into a fully-fledged trade organisation. The immediate positive consequence of this conversion is the establishment of a Commission that could become deeply involved in issues related to intellectual property at an international trade level.

On 20th December 1991, the then General Director of the GATT, Mr. Arthur Dunkel, submitted as part of the proposed "Final Agreement" of the Uruguay Round a draft proposal containing all the agreements reached by the 107 representatives. This

¹²⁷ The developing countries believe that intellectual property is an issue to be discussed in the specialised organisation, the WIPO. This position shows the developing countries' fear of the developed nations, which, besides controlling the transfer of technology, can use international trade rules to restrict developing countries' economic development. For them, the Uruguay Round would be the legal instrument and justification for the international control of technology.

Developing countries, instead of discussing rules concerned with appropriate intellectual property rights, want to talk about instruments that can make available technology at a low price. As seen before, knowledge is a common heritage of mankind that should be available to anyone. See "Brazil Sees GATT Proposals as Threat to Sovereignty", *Financial Times*, 20th February 1990 at p. 5.

¹²⁸ See Gutterman, *op. cit.* 112 at pp. 361-363.

¹²⁹ See Balassa, Bela, "Interest of Developing Countries in the Uruguay Round" [1988] 11 *the World Economy* at pp. 45-49.

draft proposal contains 73 articles related to intellectual property protection. It establishes minimum standards of protection to intellectual property. Its main features are intended to strengthen protection to owners of technology by increasing the period of protection; by extending protection to all related intellectual property such as trade secrets and geographical indications, and by guaranteeing the appropriate enforcement of intellectual property by all countries of the GATT. The main basic features are:¹³⁰

(A) Trademarks: The period of protection given to owners of trademarks will be for a term of no less than seven years with indefinite renewals (art. 18).

Also, if trademark use is a requirement for trademark validity, registration will be cancelled only after 3 years of non-use from the date of registration. *Force majeure* and circumstances independent of the owners' will that constitute an obstacle to the use of trademark are recognised to be valid excuse for non-use (art. 19).

Furthermore, it is recognised that special protection should be given to well-known trademarks against dilution by unauthorised appropriation. In determining whether a trademark is well known, the public knowledge of the relevant sector will be assessed, instead of general public knowledge art. 16 .

(B Patents: The term of protection given shall not be less than 20 years starting from the filing date

Also, patents will be available for any invention in all fields provided they are new, involve an inventive step, and are capable of industrial application. However, art. 27 2 and 3 allows parties to the Agreement to exclude from patentability plants and animals other than microorganisms, and essentially biological processes for the production of plants and animals other than non-biological and microbiological processes.

¹³⁰ See Dunkel Arthur, *Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations* 1991 GATT, Geneva) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) Including Trade in Counterfeit Goods (Amex) at p. 57

Moreover, the draft includes compulsory licensing. However, the granting of compulsory licensing will follow some criteria: (i) The granting will be non-exclusive. (ii) The granting will be done only after the proposed user has made efforts to obtain authorisation from the owner to use it. (iii) The granting will be limited for a period of time, or until when the circumstances that originated the granting terminate. (iv) The legal validity of the granting shall be subject to judicial review.

(C) Special Requirements Related to Border Measures: The provisions, from art. 51 to 60, are intended to the combat counterfeiting activities. The main points are : (i) the signatory countries will enable the right owner, who has valid ground for suspecting importation of counterfeit trademarked goods, and pirated copyright goods, to file an application so that importation can be stopped; (ii) inspection of the suspected counterfeit products; (iii) apprehension of counterfeit goods; (iv) criminal procedures and penalties.

(D) Dispute Prevention and Settlement Proceedings: According to arts. 63 and 64, laws and regulations, final judicial decisions and administrative rulings made by any country's authorities in relation to the protection of intellectual property rights, shall be publicly available. The objective of this requirement is to make right holders become aware of the standard of protection afforded by countries. Also, they have to notify the laws and decisions mentioned above, to the council on Trade-Related Aspects of Intellectual property Rights in order to make these laws more easily available worldwide.

In case where a country is not convinced that another country is observing correctly provisions of the code, in particular those related to intellectual property, it will be possible to take the matter to the GATT consultation and settlement disputes. If the alleged country is found to be at fault and it refuses to comply with the intellectual property rules of the Code, the benefits of any trade agreements might be suspended and retaliatory trade measure introduced.



The availability of "dispute settlement proceedings" for intellectual property related issues is regarded as one of the most important points of the Code. This facility should strengthen the rights of patentees through the member countries.

As we have seen, due to the developing countries commitment to reduce the protection available to patentees, the international environment for technology transfer and foreign direct investment has become more difficult than before, especially for developing countries.

Much of the flow of technology and foreign direct investment are nowadays conditional on a countries' adoption of adequate intellectual property protection. This situation is likely to persist since companies and countries are increasingly dependent on technological innovation for development.

CHAPTER THREE

CHAPTER III

THE BRAZILIAN INTELLECTUAL PROPERTY LAW: A NEGATIVE INSTRUMENT TO ATTRACT FOREIGN INVESTMENT AND TO PROMOTE THE INFLOW OF TECHNOLOGY

The new international environment for technology and investment created by the action of developing countries to decrease intellectual property protection has made it difficult for developing countries to acquire needed technology. Alongside, society and economic development have been more dependent on new technologies. This international reality has created a fierce competition between countries to attract technology, especially in form of foreign direct investment and licensing agreements.

The immediate result of this competition has been the adoption of a new philosophy towards foreign investment. One has not seen before so many proposals, elaboration, approval and enactment of legislation and rules, in such a short period of time, favouring foreign companies' investment. Countries regarded as possessing strong economic and cultural roots in protectionism and nationalism have recently been reported to have changed their rules on foreign investment and intellectual property. This is so in the case of Mexico which considered foreign enterprises harmful to its economy. Therefore it controlled rigorously the entry of foreign investment in certain areas and the flow of technology transfer. Recently, the Mexican Parliament has enacted new laws on intellectual property.¹ Mexico has been reported to have attracted more than US\$ 20 bn. in foreign capital in 1991² and having relaxed the rules on technology transfer.

¹ "Law on the Promotion and Protection of Industrial Property of 25th June 1991", [1991] 30 Industrial Property at Laws and Treaties.

² Mexico is accounted to have been the country in Latin America which received more foreign investment in 1991. It has received US\$ 20bn. out of the region's US\$ 36bn of net capital inflow. See "Net Inflow of Finance for Latin America this Year", Financial Times, 19th December 1991 at P. 4.

This is due among various reasons to the easing of rules towards the entrance of foreign companies, to the stable eco-

This has also been Hungary and India's situation where most of the protectionist and restrictive measures on foreign investment have been dismantled.³

In this perspective, it is important to ask about the Brazilian attitude towards foreign investment in this new international political and trade environment. Brazil has been one of the developing countries that have given special consideration to foreign investment as a strategy to promote economic development. The policies of welcoming foreign companies and of acquiring technology as fundamental strategies for the creation and establishment of a competitive market and competitive national industries have led Brazil to be more dependent on foreign technology and investment. Therefore, it makes Brazil a strong competitor, especially among the so-called "new industrialising countries", to attract technology especially in form of vertical direct investment. At the same time, Brazil has been one of the most outspoken countries against the Paris Convention and the intellectual property system. It has also been said that the Brazilian intellectual property law is one of the most restrictives especially to foreign patentees.

Thus, the following questions must be asked: What has Brazil been doing in its law of foreign investment to become more competitive and able to attract the latest technology? What is the effect of the present intellectual property law on the inflow of technology and foreign direct investment? What are the problems of this law, regarding the patentability of new technology? These are some of the questions to be answered in this chapter. Nevertheless, the heart of this chapter will be the assessment of how the present Brazilian intellectual property law affects the inflow of technology and investment.

By way of background, it will be necessary to analyse some aspects of Brazilian economic development, especially those related to the policy of industrialisation during the last 50 years. A detailed study of the economy and politics of Brazil during these last

conomic programme adopted by the President Gortari, to a programme of state companies' privatisation and the organisation of North America Free Trade Agreement (NAFTA).

³ Hungary has been frequently rewarded by the developed countries for its commitment to open its market to foreign investment and to safeguard sensitive technologies such as those involving military equipment. The most recent award has been the relaxation of restrictions on the import of technology from Western Countries under the COCOM Agreement. See "Hungary Freed From COCOM Curbs", *Financial Times*, 11th February 1992 at p. 4.

50 years exceeds the scope and aims of this chapter. Nevertheless, a brief outline of some economic development will be important for an understanding of the present intellectual property Code and the recent strong government commitment to promote foreign direct investment.

3.1 Industrialisation Drive: The Brazilian Import Substitution Policy 1946-1962:

Although Brazilian industrialisation started from the end of the last century with the development of coffee exporting being followed by British investment in the country,⁴ it was only after 1946 that industrialisation was regarded as a domestic oriented policy. After 1946, the Brazilian government promoted an important programme of import-substitution during which real industrial growth increased by 262% (period 1947-1962) and the real growth rate of the economy, during the same period, reached 7.8%.⁵ This policy of import-substitution had as a main goal the modernisation of the country by creating a strong industrial sector.⁶

The decision to implement an industrialisation policy was taken initially as a defensive strategy against external factors⁷ which seriously affected the balance of payments and the economy as a whole. However, by 1950, an ambitious industrialisation policy became the only reasonable option to make the Brazilian economy survive in the dynamic international market.

⁴ For more detail see Baer, Werner, *The Brazilian Economy: Growth and Development*, 1989 3rd. ed. (Praeger, London).

⁵ *Id.* p. 65.

⁶ About 60% of the Brazilian working force in 1950 was estimated to be in the agricultural sector. Also, in 1947, agriculture generated 27.6% of the national income compared to 19.9% created by industry. See Syvrud, Donald E., *Foundations of the Brazilian Economic Growth*, 1974 (Hoover Institution Press, California) at pp. 12-27.

⁷ The main external factors which influenced the Brazilian government to adopt a deliberate industrial policy were World Wars I and II which made it difficult for Brazil to import capital goods so that productive capacity could be increased. Also, the Great Depression had a negative impact on the Brazilian economy and balance of payments due to the decline of the coffee market and price. During the beginning of the Depression, coffee accounted for 71% of Brazilian total exports. Baer, *op. cit.* 4 at pp. 31-47.

As the Brazilian economy was based on the agricultural sector, the growth of the Brazilian economy with the maintenance of the existing industrial capacity, and the increase of the foreign exchange reserves were very much connected with the extraction, production and exportation of agricultural and primary goods.⁸

However, these goals could not be achieved by exporting agricultural goods. These products were not sufficient to increase the amount of foreign exchange needed to foster economic development.⁹ Moreover, two main factors underline the difficulty of the agricultural sector to promote economic growth. Firstly, the prices of some agricultural products were falling in the world market due to increasing competition. This could be seen in the negative effect of the high prices of some agriculture products had had on consumer demand. At the end of the Second World War the price of coffee increased thereby attracting producers in other countries to produce the same goods. Therefore, it diminished the market share for Brazilian coffee. It was also noted that an increase of 10% in coffee prices made consumers reduce consumption by 2.5%.¹⁰ The second factor was the fact that consumption of raw materials in developed countries was reduced due to the application of more efficient techniques in the productive sector.¹¹

It was under these circumstances that the policy of import-substitution industrialisation was implemented.

The instruments used to implement the industrialisation policy were among others the imposition of import restrictions, the manipulation of foreign exchange controls and the adoption of preclusive tariffs.

⁸ The main agricultural goods produced by Brazil were coffee, cocoa, cotton, sugar and tobacco. The principal markets for such goods were the United States and Western Europe. *Id.* p. 48.

⁹ Already in the period 1938-39 Brazil had changed the composition of imports from mainly manufactured goods to capital goods and fuel. In this period, capital goods corresponded to 29.9% of imports and fuels to 13.1%. This change was due to the existence and growth of some industries prior to 1946 such as textiles, food products and metal products. *Id.* pp. 39-42.

¹⁰ *Id.* p. 51.

¹¹ The decline of imports from developed countries was seen in the United States when raw material consumption declined from 22.6% in 1904-13 to 12.5% in 1944-50. *Id.*

The tool most used to reach industrialisation was the control of foreign exchange. Using this instrument, the Brazilian government regulated the balance of payments according to the economy's needs. The intention was that Brazil could save foreign currency and it could acquire the imports necessary to foster industrialisation, especially fuels and capital goods.

During the period 1946-53, the Brazilian government exercised tight control on the foreign exchange to keep the balance of payments in equilibrium.¹² It kept the Brazilian currency (cruzeiro) overvalued. Also, a system of import licensing was adopted to keep importation under control. The overvaluation of the currency encouraged imports. Thereby, local industries could obtain machinery and raw materials to increase production without burdening their accounts and increasing inflation. Another instrument was an import licensing system which was imposed to prevent further decreases in the already low foreign exchange reserves. The import licensing system also aimed to protect the existing domestic industries.¹³

This licensing importation system can be regarded as very important to Brazil since it controlled the level and structure of Brazilian imports, especially during times of low foreign exchange reserves.¹⁴ Under this system, foreign exchange was available according to three prioritised categories. The first one was "super essential". It embodied agricultural inputs such as fertilisers and insecticides. It also included fuels, drugs and metals.¹⁵ The second category was "essential goods" such as capital goods and pharmaceutical drugs. The third one was "consumer goods". The third category of importation was regarded "superfluous" and was discouraged by the Brazilian government.

The result of the adoption of these two instruments was the growth of foreign exchange. At the end of the 40's and the beginning of the 50's, the Brazilian Department

¹² *Id.* p. 55.

¹³ Bergsman, Joel, *Brazil: Industrialization and Trade Policies*, 1970 (Oxford University Press, London) at p. 28.

¹⁴ *Id.*

¹⁵ *Id.*

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¹² *Id.* p. 55.

¹³ Bergsman, Joel, *Brazil: Industrialization and Trade Policies*, 1970 (Oxford University Press, London) at p. 28.

¹⁴ *Id.*

¹⁵ *Id.*

in charge of export and import (CEXIM) relaxed its control on foreign exchange and the licensing importation system. The result of that was the increased importation of "super essential" and of "essential goods", and the stability in the importation of consumer goods.

Nevertheless, the relaxation of the controls on the importation of goods, especially manufactured ones, did not affect the industrial output of existing industries and the growth of new industries. On the contrary, the easier entrance of capital goods helped companies to acquire the necessary equipment to increase productivity and production. Another very important instrument to foster industrialisation was the

3.1.1 The Law of Similar as a Tool to Foster the Inflow of Foreign Technology and Investment:

The Law of Similar was a policy instrument used since 1911 to prevent the import of unnecessary manufactured goods. It acted by prohibiting and discouraging imports of products which national or foreign companies could manufacture in the domestic market. Brazilian industrialists who desired to seek trade protection against importation and foreign competition in the Brazilian market, could apply for registration of the goods they were manufacturing, or intended to manufacture.¹⁶

This law was rigorously applied after 1950 when the import-substitution policy took a more dynamic turn. The authorities interpreted and applied the Law of Similar with flexibility, especially concerning the requirement of quality and quantity of goods that domestic producers had to manufacture in order to prevent importation of foreign goods.¹⁷ It was during the period 1957-61 that the Law of Similar had a positive impact

¹⁶ Baer, *op. cit.* 4 at p. 61.

¹⁷ *Id.*

on industrialisation policy. At that time, a new stage of industrialisation took place, favouring those involved in the industrial production sector. This new stage was the "desenvolvimentismo economico" (economic developmentalism) adopted by the Administration of the President Juscelino Kubistcheck (1956-60). Among the main goals of this economic policy were increased economic growth, increased competitiveness of the Brazilian market and the industrialisation of regions which were heavily dependent on the production of agricultural goods such as the Central and the Northern regions of the country. Kubistcheck believed the problem of Brazilian underdevelopment, its social problems and political tensions, could be resolved by rapid industrialisation.¹⁸ Moreover, industrialisation could reduce the dependency of the country on foreign imports and reduce international political interferences in domestic issues.¹⁹

The enthusiasm of the administration and its nationalist slogan "Brazil's destiny is to drive for development" can be regarded as the landmark in the belief that Brazil could become an industrialised country. This developmental philosophy made Brazil one of the very few developing countries not to accept marginality in international decisions, and the freezing of the world power system.²⁰ This mentality has been present throughout Brazilian political, and economic history has been used especially by the Military government and the present Administration.

The use of the Law of Similars guaranteed to the industries producing in the Brazilian market (foreign and domestic industries), the protection needed against cheap and better quality imports. Also, this law had a very positive effect on the attraction of foreign investment since companies that were established in Brazil could have an exclusive exploitation of the market.²¹ The desired entrance of vertical foreign direct investment

¹⁸ See Skidmore, Thomas E., *Politics in Brazil, 1930-64: An Experiment in Democracy* 1967 (Oxford University Press, New York) at pp. 166-167. The slogan adopted by Sr. Kubistcheck was "Fifty years' progress in five" and its symbol for developmentalism was the construction of a new capital: Brasilia.

¹⁹ *Id.* pp. 164-174.

²⁰ This mentality is believed not to be manipulated by ideological reasons. Instead it is believed that it has been a serious commitment to development. See Coffey, Peter and Lago, Luiz Correa do, *The EEC and Brazil: Trade, Capital Investment and the Debt Problem*, 1988 (Pinter Press, London) at preface.

²¹ Importation of goods produced similarly, in the market, was not fully prohibited. Goods in the special category could be imported but only with great difficulties. Furthermore, private importers could import general categories products but by

was facilitated by this law.²²

"The operation of the law of similars has been a most powerful incentive for foreign investors to move from importing into assembly, or from assembly into full-fledged manufacturing. The essential feature of this incentive has been fear of outright exclusion from the market rather than hope for preferential treatment in relation to competition. In many cases, the mere report that some Brazilian or competing foreign firms was contemplating manufacture, with the implication that imports of similar goods would henceforth be ruled out, was the critical factor impelling U.S. companies to move to preserve their market position by building local plants."

3.1.2 The SUMOC Instruction 113 and the Manipulation of Exchange Rate:

Other instruments were significant in attracting vertical foreign investment and deepening the industrialisation process. The Tariff Law of 1957 and the SUMOC (Superintendency of Money and Credit) Instruction 113 were the main ones. The former was in force from August 1957. Its main characteristics were the introduction of *ad valorem* tariffs which were raised up to 150 per cent, and the manipulation of the foreign exchange rate. The exchange rate categories were reduced from five to two.²³ The two groups were divided into a "general category" which was composed of raw materials, fuels and capital equipment, and a "specific category" which included the importation of non-essential goods. For the "general category" which included products such as wheat, petroleum, fertilisers and printing paper, a special low exchange rate was available. The exchange rate in this category was set by auction mechanisms where the government could control the fluctuation of the rate.²⁴ For the "specific category" a higher exchange rate was applied and *ad valorem* tariffs were added so that importation could be discouraged.

doing so they would not be entitled to any exemption, government loans or special programmes organised by the government. Exception to the Law of Similars was frequently made according to government discretion. See Bergsman, *op. cit.* 13 at pp. 34-35.

²² Cited in Baer, *op. cit.* 4 at p. 61.

²³ *Id.* p. 58.

²⁴ Bergsman, *op. cit.* 13 at p. 32.

To understand the difference in treatment between the two categories in a simple way, the author will use the explanation given by Bergsman:²⁵

"... to import goods in the general category one bore tariffs up to 80 per cent, while for goods in the special category one had to buy exchange at a premium of 100 to 200 percent, and also to pay tariffs ranging up to 150 percent."

The SUMOC Instruction 113 was also a very powerful tool used by the Kubistcheck Administration to obtain high rates of economic growth and induce modernisation of the Brazilian market. This Instruction was created in 1955 and its main objective was to attract foreign investment. It worked by allowing importation of capital equipment without any foreign exchange transaction, as seen above. This applied mainly to foreign companies newly established in the Brazilian market. They could import any machinery they wished on the condition that they accepted as payment for the transaction their capital participation in the company in which the machinery was going to be used.²⁶ This made possible the organisation of joint-venture in Brazil and establishment of commercial arrangements between domestic and foreign enterprises. The use of Instruction 113 by foreign investors was advantageous. Firstly, no tariffs had to be paid by them. Secondly, it was a simpler and cheaper way to transact business since no foreign exchange was to be used. It is believed that the advantage of the transaction could be measured by comparing the costs of transacting foreign exchange in the auction system and in the free market. A foreign company not using the Instruction 113 would have to send dollars to Brazil (which would be received by its subsidiary in cruzeiros) exchanged at the free market rate, and had to repurchase the dollars in the auction market at a higher cost.²⁷ Thus, it was advantageous to avoid foreign exchange transactions.

²⁵ *Id.* p 53.

²⁶ Baer, *op. cit.* 4 at p. 59.

²⁷ *Id.*

In order to be able to import under Instruction 113, the foreign investor had to comply with requirements imposed by the CACEX (Foreign trade department of the Banco do Brasil, which replaced CEXIM). Firstly, importation of machinery would be permitted in relation to an industry which the government wanted to develop. Secondly, the foreign investor had to enter into an agreement with the Brazilian government on different operational plans, including domestic procurement inputs.²⁸ In entering into this agreement the Brazilian government discouraged "assembly-only" investment and promoted vertical integration of foreign industries. Furthermore, agreement on domestic procurement inputs forced foreign companies producing in Brazil to develop domestic suppliers. This had a positive impact on companies to encourage production and to improve the quality of the goods offered.

In order to attract foreign investment, the protection of the market against imports, and preferential exchange rates combined with special trade programmes (such as the SUMOC Instruction 113) were largely used by the Brazilian government in its import-substitution policy. Other supplementary measures were also put in practice to help bring foreign investment into the country. One was the legislation favourable to the remittance of earnings and capital. Another one was the establishment of the "Executive Groups". The legislation of profit remittance that operated from 1953 to 1962 created a friendly environment for foreign investors since the remittance of earnings was virtually unrestricted.²⁹ On the same line, the establishment of the "Executive Groups" created an opportunity for foreign investors as well as domestic manufacturers to participate in government, seeking solutions to eliminate red tape, to end bottlenecks and to discuss infrastructure and the implementation of general policies for investment.³⁰ These Groups were considered very effective since as managers of foreign enterprises pointed out, they discussed and negotiated directly with those responsible for the adoption of the economic

²⁸ Bergsman, *op. cit.* 13 at p. 74.

²⁹ *Id.* p. 76.

³⁰ *Id.*

policies: the relevant Ministers of the government.³¹

One example of the success of these "Executive Groups" was the automobile industry. This industry received very special treatment from the government and from the respective Executive Groups. According to the plan drawn by the "Executive Groups", automobile companies that could fulfill some the requisites set by the government were given privileges such as the reservation of foreign exchange at a subsidised rate, duty free importation of spare parts and capital goods, and government financing.³²

The existence of the "Executive Groups" acted as a double action protection against imports and in favour of companies producing on Brazilian soil. The result of this measure was seen clearly in the car manufacture industries. Foreign companies exporting cars to Brazil were under very strong pressure to manufacture in Brazil (thereby enjoying protection and trade privileges) or to lose a potential market.

These measures did bring vertical foreign direct investment into the country. According to data obtained from Bergsman,³³ from the Central Bank, it is possible to see the increase of rates of foreign investment from 1947 to 1961. Furthermore, it can be noticed that higher rates of foreign investment were obtained especially when measures such as the SUMOC Instruction 113, a favourable remittance of profit legislation and the "Executive Groups" were in operation.³⁴

By assessing the effects of this industrialisation policy, it is possible to see the transformation of the Brazilian economy. One indication is the increasing contribution of the industrial sector to the Growth Domestic Product (GDP). While in 1939, agricultural share of GDP was about 30% and industry was 20.6%, in 1960, the industrial sector's share was 28.0% compared to 22.2% reached by agriculture.³⁵ Another indicator is the change in the composition of the population in the urban-rural areas. According to IBGE

³¹ *Id.*

³² *Id.* pp. 126-127.

³³ See estimate presented in Bergsman, *Id.* Table 4.8 at p. 76.

³⁴ *Id.*

³⁵ The data discussed is calculated in "constant prices" not in "current prices". *Id.* p. 68.

(Brazilian Institute of Statistics) Census, in 1940 31% of the Brazilian population was found to be in urban areas while 69% was in rural areas. However, twenty years later, 45% of the population was concentrated in urban areas while 55 per cent was in the agricultural rural areas.³⁶ The migration movements seemed to follow the high rates of growth in the industrial sector and the economic development of the country in developing the labour forces.

The third indicator is the change in the structure of imports. By 1962, imports of consumer goods had declined considerably. Capital and intermediate goods were predominant. Nevertheless, during the developmentalism era, when Brazil recorded stunning industrial and economic development, consumer and capital goods reduced drastically. While in 1949 capital goods constituted 59% of the total imported, in 1960 it dropped to 23.4%. Consumer goods' rate also dropped from 10% in 1949 to 4.5% in 1960.³⁷

3.2 The Second Import Substitution and Its Exacerbation of Protectionist Measures:

The import-substitution policy ended when Janio Quadros came to power as president in 1961. From 1961, Brazil was locked by economic stagnation and unprecedented political instability which ended with the military coup *d'état* in 1964.

The political instability during those four years was marked by constant political vacillation and the governments' lack of availability and authority. Both Quadros (who governed for seven months) and Joao Goulart (1962-64) showed a lack of personal political ability and political commitment to implement the economic, political and social reforms needed.

³⁶ IBGE Census data taken from Rosenbaum, H. Jon and Tyler, William G., *Contemporary Brazil: Issues in Economic and Political Development*, 1972 (Praeger Publishers, London) at p. 416.

³⁷ See Baer, *op. cit.* 4 at pp. 66-70.

One example of this was the enactment of the Law n. 4.131/62³⁸ which regulated and restricted the remittance of profits of foreign companies in Brazil. The enactment of this law was used as a tool to court popular and legislative support from the moderate and radical nationalists who saw the presence of foreign investors as pure exploiters of the Brazilian market and as a threat to Brazilian sovereignty.³⁹

Among the main restrictions imposed upon foreign investors was the requirement of registration with SUMOC within 30 days after foreign investment was brought into Brazil, the prohibition of royalties payments when patents and trademarks were transferred from the main overseas branch of a company to its subsidiary plant in Brazil (art. 14), the limit of annual remittance of profits to 10% of the invested capital in Brazil (art. 31) and the possibility to restrict the remittance of dividends abroad when a situation of disequilibrium in the balance of payments occurred (art. 28).

The result of this legislation, combined with the political instability in the country, was the decrease of new foreign direct investment in the market and the delay of further trade commitments by foreign enterprises already established in the Brazilian market.⁴⁰

Although this legislation was heavily condemned by the Military government in 1964, this legislation was not altered significantly by them.⁴¹ Instead, they promised to create a stable political situation which was intended to castrate the political power of nationalists in order to attract the needed foreign investment. Also, they wanted to stabilise the economy and to put it back on the track to recovery thereby making the Brazilian market a profitable place in which to invest.

³⁸ See Law 4.131 of 3rd. September 1962.

³⁹ See Skidmore, *op. cit.* 18 at pp. 221-252.

⁴⁰ *Id.* p. 227.

⁴¹ One of the few significant reforms was the increase on the rate of profit remittance from 10% to 12% from the capital invested in the country. See art. 43 of the Law n. 4.390 of 29th August of 1964 which altered the Law 4.131/62.

The revision and reform of this legislation has been a constant action of 20 years of military government. According to research done in the library of the Brazilian Parliament, the Law has been altered and revised nineteen times. The most significant change within them have been Law 4.390/64 and the DEL 2.073 of 20th December 1983.

3.2.1 The Law 4.131/62 and the Contracts of Technology Transfer:

The Law 4.131/62 is important in the sense that it was the first policy related to the transfer of technology to Brazil. Firstly, it recognised the transfer of technology inasmuch as it permitted the payment of royalties for technical assistance, for the licensing and use of patents and trademarks under the condition that those contracts be registered with the SUMOC:

Art. 9- "Physical persons and enterprises which desire to remit profits, bonus, interest, amortization and royalties in relation to technical scientific administrative assistance should submit to the competent authorities such as the SUMOC and the Tax Division Office the contracts and necessary documents related to such transactions."

Secondly, the law prevented the transfer of any outdated technology into the country by making the payment of royalties conditional on the proof that the transferred patented technology or the technology covered by the trademark, was still valid in the country where it was patented or the mark registered.⁴²

Thirdly, the law provided that the technology to be transferred in the form of patents, technical assistance and trademarks had to be registered in the competent offices and had to comply with the requirements provided by the Code of Industrial Property.⁴³

Fourthly, it prohibited the payment of royalties when patents or trademarks were licensed or fully transferred from the parent plant to its subsidiary.⁴⁴

The Law 4.131/62, insofar as technology transfer agreements are concerned, marked the beginning of the government's concern to acquire technology from abroad.⁴⁵

⁴² See Art. 11 of Law 4.131/62.

⁴³ *Id.* art. 12 Parag. 3.

⁴⁴ *Id.* art. 14.

⁴⁵ Legislations on technology transfer in Brazil have always been understood within the context of the treatment of foreign investment. They relate to the general policy towards foreign investors' rights and obligations, instead of being an instrument to allocate technology to areas regarded important to the productive sector, or to industries that the government wants to develop. See Figueiredo, Maria Helena Poppe, *A Transferencia de Tecnologia no Brasil, 1973* (IPEA, Brasilia) at

During the import-substitution time, technology transfer was mainly done by the inflow of foreign investment in Brazil and by the importation of capital goods, especially machinery.⁴⁶ At that time, as the prime objective was to foster industrialisation, the transfer of technology was done without any specific evaluation of its application to the industrial production sector.

Only after industrialisation took place and a competitive market had been established for manufactured and capital goods, did the focus shift to the contents, objectives and performance of the technology transferred, and the government commenced to legislate about the subject. That is what happened after 1961 with the enactment of the Law 4.11/62. By having regard to the level of development of the domestic industries, the demand and the competitiveness of the market and the need to encourage the economy to be more outward looking, the Brazilian government created stricter (but permissive rules) on transfer of technology agreements.

In this context, the Decree 53.451/64⁴⁷ and the Law 4.390/64⁴⁸ can be regarded as good examples of the more "interventionist" policy on technology transfer. In relation to the Decree 5.451/64, the government imposed the requirement of registration in the SUMOC of contracts involving technical assistance, licences of patents and trademarks. It also made possible the interference of SUMOC in the examination of the effectiveness, need for and quality of, the technology to be transferred to companies operating in Brazil, when such technology involved remittance of royalties.⁴⁹ Moreover, the Decree 53.451/64 limited to 5 years the period for remittance of royalties on technical assistance and the amount of remittance to 2% of the cost of the manufactured product or the commercial value of the product.⁵⁰ The Law 4.390/64 conditioned the payment of royalties

pp. 215-232.

⁴⁶ Importation of capital goods can be regarded as technology transferred since the exporter had to provide written instructions and technical assistance for the installation, operation and maintenance of the machinery imported.

⁴⁷ See Decree n. 53.451 of 20th January 1964.

⁴⁸ See Law 4.390 of 20th August 1964.

⁴⁹ See Decree n. 5.451/64 at art. 42 and art. 46.

⁵⁰ *Id.* art. 42 Parag. 1.

for the use of patents, trademarks and related intellectual property rights on the proof such rights were existent and registered in the Brazilian Intellectual Property Office.⁵¹

The new government which took power in April 1964 realised the importance of the acquisition of technology through technology transfer contracts. Accordingly, the transfer of technology adopted was closely related to conditioned on the economic goals set by the government.

In the period 1964-73, the military administrations, besides adopting measures to create a stable political and economic environment, established a new economic policy based on rapid, but balanced, economic growth. Inflation would be controlled⁵² and investment would continue to alleviate regional disparities and to increase the productive capacity of the economy.

As part of this policy, the Brazilian government again fostered the inflow of foreign direct investment. Besides import tariffs, the government used tax incentive programmes and public money to create a stronger infrastructure for investment and to increase the number of consumers.⁵³

In relation to foreign trade, the Brazilian government after 1964 gave top priority to export goods. In 1969, it created the CIEEX Programme which consisted of tariff reduction on imported machinery designed to modernise the small and medium sized domestic enterprises so that they could export their goods.⁵⁴ In 1972, it created the Commission of Export Programmes called BEFIEEX, which established tariff benefits to those enterprises, domestic and transnational, which desired to import machinery that could also be used in the production of exports. It established subsidies for importing capital goods and tax exemption on profits obtained from exports.⁵⁵

⁵¹ At that time, the Brazilian Intellectual Property Office was called "Departamento Nacional da Propriedade Industrial" (DNPI).

⁵² See Syvrud, *op. cit.* 6 at pp. 33-49.

⁵³ By increasing the populations' participation in the country's income, the Brazilian government could put the Brazilian market among the most attractive and promising to transnational companies.

⁵⁴ Executive Decree n. 491 of 5th March 1969 at art. 13, later altered by art. 4 of the Executive Decree 1.428 of 2nd. December 1975.

⁵⁵ The incentives for exportation as well as the creation of the BEFIEEX (Comissao para Concessao de Beneficios Fis-

By establishing a favourable foreign policy, the balance of payments deficit could be diminished according to the economic objectives of the government, the export commodity structure was diversified,⁵⁶ and the industrial sector could be invigorated. The number of jobs could be increased and the competitiveness and efficiency of companies (especially domestic ones) improved could be strengthened.

3.2.2 The 2nd. Import-substitution Policy and The Increasing Government Interference in Technology Transfer Contracts:

Acquiring technology from abroad through the transfer of technology contracts was also taken much more seriously due to the high economic goals set by the government. The need to increase the competitiveness of domestic enterprises meant that they were more dependent on new productive techniques from abroad. In this period, the Brazilian government increased its interference in technology transfer contracts by limiting the freedom of contract of the parties and by requiring the parties to comply with a series of set requisites before any contract could legally come into effect.

The interference commenced with the enactment of the Law n. 5.648/70⁵⁷ which created the present Brazilian Patent Office (called INPI).⁵⁸ Besides creating the Office, the law gave powers to the INPI to adopt measures to regulate and to accelerate technology transfer, as well as to establish better conditions for negotiations for domestic enterprises.⁵⁹

cais a Programas Especiais de Exportacao) were created by the Executive Decree n. 1.219 of 15th May 1972.

⁵⁶ By 1973, manufactured goods accounted for 22% of total exports, manufactured semi-processed goods accounted for 37%, soyabeans for 15% and the coffee share had shrunk from 56% in 1960 to 22% in 1973. See Baer, *op. cit.* 4 at p. 205.

⁵⁷ See Law n. 5.648 of 11th December 1970.

⁵⁸ INPI stands for Instituto Nacional da Propriedade Industrial.

⁵⁹ See Law 5.648/70 at art. 2.

"... the INPI shall adopt, regarding the economic development of the country, efficient measures to accelerate and to regulate transference of technology, and to establish better conditions for negotiations and exploitation of patents... [Also] it shall pronuntiate through signature, ratification of conventions, treaties and agreements on industrial property."

Another piece of legislation which had significant impact on technology transfer in Brazil was the Law 5.772/71.⁶⁰ This law created the present Code of Intellectual Property and reinforced the power of the INPI by making the contracts involving technology transfer subject to its approval.⁶¹ The registry of documents in the Central Bank (latter SUMOC) and the payment of royalties would only be effective after being approved by the INPI.⁶²

The creation of the INPI and the enactment of the Brazilian Intellectual Property Code were regarded as initial steps for government action to have a more stringent interference in technology transfer arrangements. As the government realised the importance of foreign technology to economic development, it increased its participation in such contracts. Other important factors that increased government interference were the first oil shock in 1973 and the new military administration that took power in 1974.

With the oil shock in November 1973, the price of petroleum quadrupled. Countries very dependent on that raw material for development, such as Brazil, were negatively affected by that event. Brazil, at that time, relied on imports of oil for over 80 percent of its consumption.⁶³ After the shock, its import bill doubled from US\$ 6.2 billion in 1973 to US\$ 12.6 billion in 1974 followed by a slump of its balance of payment and the increase of its international debt.⁶⁴

⁶⁰ See Law 5.772 of 21st. December 1971.

⁶¹ See Intellectual Property Code (law 5.772/71) at art. 126.

⁶² According to the Law 4.390/64 at art. 10 and Law 4.131/61 at art. 9.

⁶³ See Baer, *op. cit.* 4 at p. 96.

⁶⁴ The balance of payments decreased from a surplus in 1973 to a deficit of US\$ 4.7 billion in 1974. The debt increased from US\$ 1.7 billion to US\$ 7.1 billion in 1974. Estimates taken from Baer, *Id.* p. 98.

Because of this, the policy of economic development envisaged at the beginning of the 1970's was in danger. The Brazilian economy was hit hard by the consequences of the oil shock. It is believed that the Administration, at that time, had only two choices to overcome the impact of the oil shock in its economy:⁶⁵

(1) Reduce economic growth so that the balance of payment could be reduced and the effect of the oil shock could be alleviated;

(2) Keep pace of economic growth with serious economic consequences such as decline of the country's foreign exchange reserves and increase of its foreign debt.

The Brazilian government chose to keep the pace of development and the growth of the GDP based on the rates obtained from 1968 to 1974. During this period, the Brazilian economy achieved unprecedented economic development with real growth of the GDP averaging annually 10 to 11%.⁶⁶ Also, the industrial sector expanded at the annual rate of 126% and the average growth of exports reached 14.7% against 21% of imports.⁶⁷

The extraordinary growth had a strong influence on the choice made by the new administration in 1974. The new government, the administration of Ernesto Geisel, did not wish to adopt a stagnant economic policy. They believed that the only way to beat the increase in deficit of the balance of payments, and in foreign debt, was by growing and producing more. Also, the military needed satisfactory economic results in order to promote the desired smooth return to democracy.⁶⁸ Moreover, the economic euphoria during 1968-73 had created the hope that Brazil could grow even faster and be part of the "First World Countries" if the economic policy elaborated by the Geisel Administration was put in practice. According to the administration, Brazil had the managerial, natural and human resources to be a developed country. The economic indicators showed that during the Kubistcheck Administration (1954-61), the philosophy and the commitment to

⁶⁵ *Id.* p. 96.

⁶⁶ *Id.* p. 81.

⁶⁷ *Id.* pp. 81-84.

⁶⁸ *Id.* p. 97.

become industrialised was an important instrument in mobilising the population towards greater economic development. This fact was a motivation for the government to adopt its aggressive and ambitious economic policy. Therefore, in September 1974, the President sent the National Development Plan (PND II) to the Parliament. The Plan was adopted from the beginning of 1975.

It consisted of a massive four year investment programme aiming to adjust the Brazilian economy to the environment of oil scarcity, and to put Brazil into a new stage of industrial advancement.⁶⁹ In reality, this programme was a second import-substitution policy to reduce the impact of unpredictable international events on the Brazilian economy. The main goals of this programme were: (1) to decrease Brazilian dependency on basic industrial inputs such as steel, copper, aluminium, fertilisers, petrochemicals and machinery; (2) to strengthen the existing infrastructure, to facilitate investment and its absorption and to end bottlenecks in the communication and transportation sectors; (3) to develop alternative sources of energy such as hydro-electric energy, nuclear power and alcohol production.⁷⁰

In order to promote the desired development, the Brazilian government invested heavily in some sectors regarded as fundamental to economic development. They were treated as "national security" sectors. The areas supported were those involved with public utilities (telecommunications, energy, transportation) and those related to infrastructure services and metal products (chemicals, petrochemicals, steel and petroleum).⁷¹ Public investment was made through the creation of monopoly state enterprises in the sector. The decision to leave domestic and foreign private investment out of these sectors was due to nationalistic reasons,⁷² and to the belief that infrastructure was not an attractive

⁶⁹ Coffey and Lago, *op. cit.* 20 at pp. 134-35.

⁷⁰ Baer, *op. cit.* 4 at pp. 97-102.

⁷¹ *Id.* Table 10.5 at pp. 220-222.

⁷² It was believed that the presence of multinationals in prime economic sectors could harm the country's development since they were linked to the administration of their parent plant in another country. Also, it was believed that multinationals were interested to exploit the market not to develop it. *Id.* pp. 213-235. See also Baer, Werner *et al.*, "The Changing Role of the State in the Brazilian Economy" [1973] 11 *World Development* at pp. 30-34.

Another important aspect was the fear that foreign countries, through the representation of multinationals, could manipulate the natural resources of the country. The result was a Constitutional prohibition of foreign investment in the ex-

area for private investment.

The frequent presence of the state in the productive sector and the limits to foreign participation, in some sectors, during this period, consolidated the Brazilian model of industrial capitalism: the economic tripod which had strong state enterprises, transnational and national companies.⁷³ Thus, besides being a strong regulator the state became a major active producer thereby making the economy very dependent on its active participation.

3.3 The Normative Act n. 15/75 and the Excessive Formalism to Acquire Technology:

In relation to technology transfer arrangements, the II PND recognised its importance to economic development. Technology transfer contracts were seen as a very efficient and fast way to obtain the technology needed to increase the competitiveness of public and private national companies in the national and international market. For this reason, the government interfered in this private area so that the goals set by the Development Plan could be achieved. The government's main regulation and interference in the contracts of technology transfer occurred with the issue of Normative Act n. 15 by the Brazilian Patent Office in 1975.⁷⁴

The Normative Act n.15/75 was a set of rules created by the government to regulate transference of technology contracts. According to the government, the prime objective

exploitation of minerals, petroleum and resources of public utilities. Also we have to remember about the computer market which for a long time was closed for foreign participation.

⁷³ Although the infrastructure sector was shut off for foreign investment and the Brazilian distrust of the commitment of multinationals to economic development, the entrance of foreign direct investment was promoted. The result of that was foreign investment predominance in the manufactured sector with special consideration to the electrical sector, domestic electrical goods, automobiles, instruments and office equipment and pharmaceuticals. See Coffey and Lago, *op. cit.* 20 at pp. 134-135. See also Baer, *op. cit.* 4 tables 10.4 and 10.5 at pp. 219-222.

For the government, foreign investments would make the economy adapt faster to structural development creating demand for the products obtained in the market, they would influence the domestic private enterprises to change their organisation and production to more efficient ways and they would bring their technology into the country. *Id.* pp. 215-223.

⁷⁴ See Normative Act n.15/75 issued by the Brazilian Patent Office in 11th September 1975.

of the Act was to promote the importation of technology needed, through licensing arrangements so that production of goods could be achieved more efficiently.⁷⁵ Nevertheless, the Normative Act created a series of obstacles to the parties entering into such arrangements, thereby leaving the impression that importation was not desired. Thus, the objective of facilitating transfer of technology was contradicted by the restrictive provisions of the Act.

However, to the government, this contradiction could be explained by the fact that importation of technology was promoted only when the national licensee could obtain full access to the needed technology without financially burdening of its account. As public and national enterprises desperately needed technology to compete in the market, they could be deceived by a strong foreign owner of the technology needed. Therefore, the government desired to improve the licensee's bargaining power so that technology could be obtained on reasonable terms.

The commitment to improve the position of the licensee in the contract was in accordance with developing countries' object of finding an equilibrium between multinationals, and the public interest, through the state interference.⁷⁶ Accordingly, they believed that foreign licensors (normally transnationals) were taking advantage of the weak position of the licensee by obtaining higher profits. It was also believed that they imposed a series of restrictions on the transfer and on the use of the related technology. These restrictions were regarded licensor's abuses.

Among the alleged abuses were: (i) restrictions on output and sale of the product obtained by the technology transferred to other markets; (ii) restriction on the purchase of raw materials from sources other than the licensor as well as the appointment of special staff members by the licensor; (iii) territorial restrictions on exports which created a

⁷⁵ *Id.* Considerations.

⁷⁶ See Correa, Carlos M., "Transfer of Technology in Latin America: A Decade of Control" [1981] 15 J.W.T.L. at pp. 391-393. See also Radway, Robert J., "Comparative Evolution of Technology Transfer Policies in Latin America: The Practical Realities" [1980] 9 Journal of International Law and Policy at pp. 197-215.

financial burden on the licensee; (iv) extortionate royalties rates; (iv) expiration clauses which prevented the licensee from using the technology or its improvement after expiration of the contract and (v) grant-back provisions.

The Brazilian government showed in May 1973, deep concern about the abuses involving in transferring technology in the words of the Minister of Industry and Commerce, Dr. Marcus Vinicius Pratini de Moraes:⁷⁷

"Many countries' possibilities for growth are beginning to be limited by an insufficient capacity to produce their own technology and by the high cost of imported-technology. The cost of the explicit and implicit technical content of the technology imported by Brazil last year [1972] exceeded US\$ 800 million, or about 20% of the value of our exports..."

I believe, a change is urgently required in the method of transferring technology, to eliminate restrictions on its use..."

In this perspective, the Brazilian government left no doubts about its disbelief in the intention of foreign licensors. It imposed a number of conditions to be fulfilled by the licensor and it listed some clauses prohibiting restrictive provisions regarded harmful by the government.⁷⁸ It prohibited clauses which:

(i) restricted the use and exploitation of the technology such as clauses that limited the production, distribution, exportation of products containing the technology;

(ii) obliged the licensee or made the agreement conditional upon the purchase of raw material or equipment produced by the licensor or by another source indicated by him;

(iii) prevented the licensee from using the information licensed after the patent had expired;

⁷⁷ Statement by Dr. Marcus Vinicius Pratini de Moraes cited in Nattier, Frank E., "Limitation on Marketing Foreign Technology in Brazil" [1977] 11 *International Lawyer* at p. 440.

⁷⁸ The Normative Act n.15/75 described the technology transfer arrangements for registration in the INPI:

"1.1.- Contracts of technology transfer and related are classified, in relation to their objective and for registration, in five categories:

- (a) license to exploit patents;
- (b) license to exploit trademarks;
- (c) authorisation for the use of proprietary industrial technology;
- (d) those which provide for technical and industrial cooperation."

(iv) restricted the licensee in developing its own technological capacity;

(v) exempted the licensor from liabilities to third parties arising out of defects in the technology.

Moreover, the Normative Act adopted a new stance by prohibiting any clauses that made it compulsory for the licensee to transfer any development, improvement and innovations made by him to the licensor. Any improvement transfer would be effective only if desired by the licensee and paid for by the licensor.⁷⁹ Thus, the licensor of an unpatented technology, when transferring it, would bear the risk of losing any new ideas and development which the improvements brought.

As the above measures were not considered sufficient by the Brazilian government, the Normative Act n.15/75 also imposed a number of conditions to be fulfilled by the parties before registration. Also, it established that the technology to be transferred must conform to certain national economic objectives. Moreover, it enforced the INPI powers to intervene in the execution of the contract.

Among the conditions that the licensor was compelled to fulfil, under the risk of registration being refused were:

(a) to give technical assistance for the establishment and full exploitation of the technology (art. 4.5.1 (d));

(b) to transmit formulae, drawings, specifications and all kind of necessary informations together with the technology for the execution of it (art. 2.5.1 (c));⁸⁰

(c) to communicate to the licensee all improvements and new changes to the product or process of the technology adopted by him;

(d) to ensure that the technology was fully transferred (art. 4.5.1 (e));

⁷⁹ This happened in relation to unpatented technology (Normative Act n.15/75 at art. 4.5.2 (b)). In the case of patented technology, the licensee could assign the improvement to the licensor (art. 2.5.1 (d)).

⁸⁰ In the case of software licensing agreements, the source code and all related technology to be transferred are still mandatory subject matters.

(e) to ensure that the licensee would be allowed to exploit effectively the technology patented (art. 2.5.1 (g));

(f) the licensor and the licensee would be obliged to disclose all obligations and rights agreed by them (art. 2.5.1 (i));

Moreover the parties to the contract had to prove that the technology to be transferred had economic advantages, in the short and long term, to the licensee, advantages to the economic sector that the technology would be transferred to. Also, the parties had to prove that the technology fitted in with government policy towards national economic advancement.⁸¹

The detailed and excessively restrictive provisions of the Normative Act show the exaggerated concern with legal formalities and the fulfilment of requisites. This can be regarded as a result of the distrust the government had in foreign licensors, in domestic licensee's capabilities to choose the right technology and to protect themselves against contractual abuses. This interference in the transfer of foreign technology reflected the general government presence in most private sector. The state interference in private affairs can be expressed in this popular sentence: "Everybody is a suspect or guilty until the contrary is proved." In the case of technology transfer, the same assumption applied: "All foreign licensors want to make profits out of the Brazilian industry's misery until it is proved the contrary" or "All foreign licensors want to exploit poor Brazilian domestic companies, until the limitless requirements are fulfilled and then proved the contrary."

The excessive formalism seen in the regulation of technology transfer shows the degree of state intervention and the paternalism of the Brazilian legal structure.

In these circumstances, the state played an important role in protecting domestic enterprises against "foreign aggressors" and providing needed economic development.

⁸¹ *Id.* Normative Act 15/75 art. 4.1.2. In relation to the licensee, the INPI required among others that he presented data about the productive capability of the enterprise. Also, it required the company's capabilities to absorb the technology as well as a detailed schedule for absorbing it. See Stuber, Walter D., "Transfer of Technology Agreements in Brazil", [1988] *International Business Lawyer* at p. 371. See also "Daniel, Denis A., "Realities of Licensing in Brazil" [1988] 23 *Les Nouvelles* at pp. 71-75.

3.4 The INPI as a Guardian of the Brazilian Economic Development:

It was on this basis that INPI was created and has since been accumulating power to regulate and to approve the transfer of technology in Brazil. The INPI, with the Normative Act n.15/75 and more recently with Resolution n. 22/91,⁸² has not been acting only as an institution that concerns itself only with the registration of technology contracts. It has been one of the thousand tentacles used by the "octopus-like" Brazilian government to interfere in private business. By doing so it disrupts the autonomous desire of the parties to a contract, thereby keeping any business activity under strict political control. Thus, the INPI has been an institution which applies the government's policy in technology transfer arrangements. The courts in Brazil have confirmed and reinforced the INPI's power to ensure that technology contracts conform to the "national interest".⁸³

Another problem that has justified government intervention in the importation of technology has been Brazilian international indebtedness. As is known, in order to promote the desired level of economic development, the Brazilian government borrowed large quantities of money from international financing institutions and banks.⁸⁴ In doing so, the Brazilian government gained impressive economic results such as real GDP growth rate averaging 7% per year and industrial sector growth at 7.5% yearly average with special regard to metal products, machinery, electrical machinery, paper products and chemicals.⁸⁵ Nevertheless, Brazilian international indebtedness grew and new policies were called for to enhance trade surpluses. In this context, besides promoting a

⁸² Normative Act n.15/75 has recently been revoked by Resolution n. 22 of 27th February 1991. A few of the restrictive measures seen in Normative Act n. 15/75 are present in the new Resolution. For further details see Chapter Four of this thesis.

⁸³ See "Brazil's Technology Policies: at Odds with Economic Goals", [1983] 4 Boston College Third World Law Journal at p. 119. See also *Resana Case, Resana S/A v. INPI*, Judgement of the First Federal Court in Rio de Janeiro in 27th November 1979 cited at Daniel, Dennis A., "Technology Transfer and Patent License Litigation with INPI in Brazil" 78 Patent and Trademark Review at pp. 503-517.

⁸⁴ The gross debt rose from US\$ 12.6 b in 1973 to US\$ 43.5 billions in 1978. From US\$ 61.4 billion in 1981 to 95.6 billions in 1985. Moreover, a second oil shock in 1979 provoked a fall in trade and a tight internal monetary policy in the USA provoked a dramatic rise in the world interest rates. Baer, *op. cit.* 4 at p. 106.

⁸⁵ *Id.* pp. 100-101 and 103.

positive outward external trade policy, the Brazilian government committed itself to reduce imports.

As a result of the debt pressure, the Brazilian government ordered the INPI to approve only technology transfer contracts involving important technologies and technologies that do not involve the outflow of a large amount of foreign currency. This created a very problematic situation for industries, and for the Brazilian government itself, since there has been a contradiction in technological policy. Thus, at the same time the government desires to make domestic industries more competitive, it controls rigidly the transfer of technology. Furthermore, this situation was aggravated by the fact that the debt crisis extended for more than 15 years.

Under Brazilian procedures, although the parties negotiated and decided the amount of royalties to be paid, it was the INPI decision that was finally taken into consideration. According to art. 4.2 of the Normative Act n.15/75:⁸⁶

"The amount of royalties and lump sum will be fixed taking into consideration the kind of production, the degree of essentiality of the technology."

The INPI has been adopting Ministerial Ordinance n. 436 of the Minister of Finance⁸⁷ when analysing technology transfer contracts. Ministerial Ordinance n. 436/58 sets out the maximum percentage allowable to be deductible, for tax purposes, for the use of patents, trademarks and technical assistance agreements. The percentage in this Ordinance has been used by the INPI as the maximum royalty or fee rates for the payment of technology transferred. For patent licensing the rate can vary from 1 to 5% depending on the product to which the technology will be applied.⁸⁸ When the product is used to provide basic input to industries such as fuel, fertilisers and transport communications the

⁸⁶ Also in art. 4.2, the Normative Act set a number of conditions that the technology was going to be compared to in order to establish the amount of the remuneration: (a) degree of innovation; (b) degree of the technology's complexity; (c) quality of the product produced by the technology etc.

⁸⁷ Ministerial Ordinance n. 436 of 30th December 1958.

⁸⁸ See Stuber, *op. cit.* 81 at pp. 371-372.

maximum royalty rate will be 5%.⁸⁹ When the product serves to transform raw materials into essential goods such as footwear, chemical and machines the percentage varies from 2 to 4%.

In the case of trademarks, the maximum rate is 1%.⁹⁰

The wishes of the parties will not be attended to when the royalty rate exceeds the limits imposed by the Ministerial Ordinance and also the Normative Act n. 05/75 based on the essentialness of the technology.

The Brazilian courts have also reinforced the INPI's prerogative to adopt restrictive measures towards technology transfer based on balance of payments' requirements.⁹¹

The INPI practice of analysing and approving the terms of the contract according to the policy of the government, as well as its right to check whether technology or technical assistance have been adequately transmitted and assimilated by the licensee, have been creating serious problems in easing the flow of foreign technology to Brazil. It has been denying Brazilian industries the possibility of becoming more competitive in the internal and international market.⁹² An example can be seen in the *Resana Case*⁹³ when the plaintiff, a Brazilian enterprise, alleged that a delay caused by the INPI to analyse, approve and register a technology transfer contract deprived it needed technology. It gave technological and market advantages to transnational corporations operating in Brazil.⁹⁴

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ See Daniel, *op. cit.* 83 at pp. 503-508. Also, the new Resolution 22/91 has kept the power of the INPI to interfere in technology transfer contracts.

⁹² The difficulties to obtain needed technology due to restrictive legislations on industrial property can also be found in the Software Law (Law n. 7646 of 18th December 1987).

This law imposes a series of obstacles to the entrance of foreign technology and investments. It reinforces the "market reserve" for domestic industries in the area of microcomputers. Also, it enforces the SEI (Special Informatics Secretary) powers to evaluate whether the technology (software or hardware) to be sold contain a national similar. The evaluation of the product is based on the degree of substantial similarity. This action gives too much power and discretion to public institutions to decide which foreign technology can be imported and sold in the market. In this case, the SEI and INPI are regarded 'guardians' of domestic industries. They are the depriver of the much desired technology to increase the competitiveness of existing Brazilian computer companies. See White, May S., "Navigating Unchartered Waters: the Opening of Brazil's Software Market to Foreign Enterprise" [1989] 9 *Computer- Law Journal* at p. 542 to 558. See also Gallagher, John J., "The United States- Brazil Informatics Dispute", [1989] 23 *International Lawyer* at pp. and Leavy, Jarres, "Software Licensing in Latin America" [1990] 25 *Les Nouvelles* at pp. 1-5. The importance of Gallagher's article is the explanation of the evolution of the SEI's increase of power in the Brazilian informatics sector: from assistance and coordination duties to a direct and aggressive defender of the "national security" policy on information technology.

⁹³ *Resana S.A. v. INPI.* cited at Daniel, *op. cit.* 83 at p. 502.

⁹⁴ According to art. 14 of the Law 4.131/62 and to art. 1.2 of the Normative Act n.15/75, technology to be transferred

Thus, the regulatory scheme forced domestic industries to settle for inferior quality products and technologies.

This situation where industry's interests have not been taken into consideration, and the fact that the INPI has been approving technology transfer contracts only in limited circumstances, creates in practical terms an interesting contradiction. First, the licensor and licensee work as a group against the INPI restrictive actions instead of the desired alliance between the licensee and INPI, against the foreign licensor.⁹⁵ Secondly, when entering into such arrangements it is believed that the parties tend to use trickery to "get around" the bureaucracy of the INPI and the limitless requirements of the law. The contrivances used by the parties range from structuring the agreement in such a way that it will be approved by the INPI. This can include the use of indirect language in the contract, lies about the importance of the technology or manipulation of data about the contract. This way of curbing regulations without infringing the law, is well-known by lawyers in Brazil, especially those involved with technology transfer agreements.⁹⁶ According to Urey,⁹⁷ much time has been wasted in trying to structure an application for technology licensing. According to his experience, usually, the negotiations take more than a year to be concluded. This applies even in the case of mere contracts for consulting

from the parent to the subsidiary plant did not require INPI's approval since remuneration in those transactions was not permitted. See Daniel, *Id.* p. 517.

⁹⁵ See Urey, David S., "Observations on Negotiations in Brazil" [1990] 25 *Les Nouvelles* at p. 120.

⁹⁶ The unofficial measures, called *jeito* are commonly used by Brazilian citizens. This has been regarded as a part of the Brazilian political and social culture. It can be regarded as a defense to ease the tight administrative and political control on private affairs seen since the colonial period.

An interesting study has been done by Rosenn, in Rosenn, Keith S., "Brazil's Legal Culture: the *Jeito* Revisited" [1984] 1 *Florida International Law Journal* at pp. 1-43. According to this author, the *jeito* is better described than defined. In order to describe it, he mentioned the story of a graduate that desired to immigrate to Brazil: "At his visa appointment, the Brazilian Consulate in Paris immediately changed the applicant's profession from doctor to agronomist, explaining: "In this way I can issue a visa immediately. You know how these things are? Professional quota, confidential instructions from the Department of Immigration. Utter nonsense... In any event, this way will make it perfectly legal."

The Brazilian *jeito* has been regarded as prized behaviour in Brazil where who does not employ it is looked upon as stupid. In fact, the concentration of power by the military dictatorship followed by the increase of bureaucracy in the administrative services made the *jeito* the most efficient way used by citizens to avoid red tape, production costs, and time and money wastage. However, it has been one of the causes of public incompetence and the widespread nature of "hidden" corruption.

Nowadays, with the reduction of government interference in society, the extent of the Brazilian economic crisis, the inability of the *jeito* to sort the problems out seen in Brazil and also the corruption charges against Mr. Collor de Mello has made the *jeito* a hated institution. It is seen by the population as one of the causes of the Brazilian underdevelopment.

⁹⁷ See Urey, *op. cit.* 95 at p. 119.

assistance valued at US\$ 25,000.⁹⁸

The treatment of foreign technology in Brazil seen in the Normative act n.15/75 and upheld by the INPI posed and still acts as a barrier to foreign direct investment. This can be seen if one regards the difficulty for foreign companies in acquiring suitable technology from other sources but the parent plant when manufacturing in Brazil. It undermined their capability to compete in the market, produce high quality goods, and export to other countries. Moreover, this situation made the subsidiaries very dependent on the parent company's technological advancement where technology was transferred without the payment of any royalties or fees.

3.5 The Intellectual Property Code and its Barrier to the Promotion of Foreign Direct Investment:

As already mentioned, the enactment of the intellectual property Code was considered a preparatory step for more incisive state intervention in technology transfer contracts. Over the years it was realised that the harmful effects of this legislation were not only felt with regard to intended technological advancement, but was also acting against the establishment of a secure climate for foreign investment.

The recognition of the harmful presence of the Code's provisions towards foreign investment emerged, especially after 1984, when the American government listed Brazil under the Super 301 trade retaliation. It was realised that the economy as a whole was paying a high price to keep the import-substitution policy creating satisfactory results. The discussion about the negative impact of this legislation has been revived, and new trends have appeared, due to the liberal economic philosophy assumed since the new Administration took power.

⁹⁸ *Id.* See also "Evans, Larry W., "Licensing Disincentives in Brazil" [1986] 21 *Les Nouvelles* at pp. 80-84.

The new Administration took power in March 1990.⁹⁹ Since then it has been acting on two fundamental tenets: the first one has been to control and diminish the rate of inflation which reached astronomic levels under the previous government.¹⁰⁰ The aim of this is to create a stable economic environment for investment and development. The second tenet has been the modernisation of the economy by the adoption of an economic liberalisation policy. The objective is to increase the competitiveness in the Brazilian market and the competitiveness of Brazilian industries at an international level by opening up the market to foreign goods and foreign investment.

The principal measure taken has been an intensive privatising programme of state companies. The first big state company to be privatised has been USIMINAS, the steel mill company. Small companies also have been privatised, or are in process of being privatised, such as the state owned aircraft maker EMBRAER, the aircraft engine repair company CELMA, and the railway rolling-stock maker MAFERSA. Recently, another big steel mill, the CSN, has been privatised by the government. A second round of privatisation is planned to be put in practice when modifications in the Constitution will end a legal ban on private companies in two very politically sensitive sectors: energy and telecommunications. The two most desired "sacred cows" of industry PETROBRAS and the telephone company TELEBRAS will be allowed to be privatised.

A second most important action has been the exposure of Brazilian industries, including transnational subsidiaries and domestic companies, to international competition. The instrument used has been to lower import tariffs for all products, to lift the ban on the importation of similar goods produced in the domestic market and to eliminate import quotas.¹⁰¹ In doing this the Brazilian government wants to increase the productivity and quality of goods produced by Brazilian industries therefore making them

⁹⁹ Mr. Collor de Mello was direct elected as president by 35 million voters in the second round of the presidential election. His opponent was Mr. Lula from the Brazilian Labour Party with 34 million. During the campaign there was polarisation with Mr. Collor being the liberal candidate while Mr. Lula was the leftist with very strong social ties.

¹⁰⁰ In the Sarney Administration, the rate of inflation reached during the period 1989-1990 monthly rates of 80%. Inflation in Brazil, at that time, was considered the second highest in the world after Argentina's.

¹⁰¹ See "Sweeping Trade Reforms Overhaul Brazilian Commercial Policy", InfoBrazil October 1990 at p. 3.

internationally competitive.

Connected with this second action, the Brazilian government has promoted the inflow of foreign investment into the country. The objective has also been to foster competition in the market, to acquire new production techniques, management and know-how. Moreover, the aim is to bring in new private, investment instead of borrowing capital from international banks.

The process of attracting foreign investment has been done by restructuring the Brazilian economy along free market lines. Thus, the fact that the Brazilian government is opening up the market to foreign imported products and curbing the inflation rate are positive actions to create a stable environment for investment. More recently, the Brazilian government has reached an outline debt accord with its commercial bank creditors which agreed to restructure US\$ 44 billion of foreign bank debt in recognition of the government's liberal economic policy.¹⁰²

The economic reforms taking place in Brazil have already obtained positive results, especially in the area of foreign investment. So far, foreign investments has pumped capital in at a US\$ 1 billion per month. However, most of it is going into the stock market.¹⁰³

Furthermore, as a way to increase the volume of direct foreign investment, the present Administration has been willing to discover and to dismantle all obstacles that hinder the presence of foreign companies. In this regard, the Administration has received frequent complaints about the obstacles, and suggestions about new measures to be taken to foster the desired direct investment.¹⁰⁴

¹⁰² See "Brazil Reaches Outline Debt Accord", *Financial Times*, 10th June 1992 at p. 6 and "A Boost for Brazil- if not for Collor", *International Business Week*, 27th July 1992 at p. 16.

¹⁰³ See "Collor's Reforms are Beginning to Click", *International Business Week*, 30th March 1992 at p. 21.

¹⁰⁴ See "Empresa Estrangeira Sugere Medidas para Ampliar Investimentos no Brazil", *Gazeta Mercantil* (Financial Brazilian newspaper), 18th July 1991 at p. 5.3.

3.5.1 The Brazilian Intellectual Property Law as a Tool to Limit the Rights of Foreign Patentees:

The Intellectual Property Code¹⁰⁵ has been a target for businessmen's complaints since it has had a negative impact on the acquisition of the latest technology and on the inflow of foreign investment. The Code is still regarded as one of the main instruments of state intervention in some economic areas which can have an adverse effect on the modernisation policy of the new administration.¹⁰⁶

The enactment of the Intellectual Property Code in 1971 followed a policy of state intervention in private affairs. It followed the same lines as the Normative Act n. 15/75 combined recognition of intellectual property rights with the national economic strategy of the Brazilian administration during the military dictatorship.

The idea behind the Code was to minimise the costs intellectual property system could have on the economic development of Brazil. Hence, the Brazilian government sought to reduce the power of the foreign companies that controlled the volume of patents and trademarks. The main step taken was to reduce the duration of the patent monopoly to 15 years, instead of the 20 years granted by law in developed countries. Also, clear rules were elaborated that ensured the obligation to exploit patents and trademarks, and several instruments were created to penalise the inventor for not using the patent in Brazil.

Among the different options made available to foreign inventors from exploiting their inventions in the country are: (1) **Compulsory licensing**. In the Intellectual Property Code, the patentee who does not exploit his invention effectively¹⁰⁷ within three years following the date of issue of the patent, or who has interrupted its working for a

¹⁰⁵ See Law 5.772 of 21st. December 1971.

¹⁰⁶ See *Gazeta Mercantil*, *op. cit.* 104 at p. 5.3.

¹⁰⁷ The decision to consider the effective exploitation of a patent will be done by the INPI following a request for compulsory licensing concession. Importation of goods containing the patented invention does not suffice the requirement of use.

period longer than one year, will be compelled to grant licences.¹⁰⁸ Also, from a motive of "public interest", compulsory licences will be granted when the patent has not been exploited or its exploitation does not meet market demand.¹⁰⁹ The burden of proof belongs to the patentee; (2) **Patent lapse.** A patent will be held lapsed, *ex officio* or at the request of any interested party, when the patentee has not exploited his patented invention in an effective manner within four years from the patent's date of issue, or within five years where a licence of exploitation has been issued. Also, a patent lapses if its working has been interrupted for more than two consecutive years.¹¹⁰ In the case of trademarks, except in case of *force majeure*, registration will lapse *ex officio*, when use has not been initiated in the country within two years from the date of issue of the registration or when it is interrupted for more than two years. The burden of proof here lies with the patentee and the owner of the trademark.¹¹¹ (3) **Expropriation.** A patented invention will be expropriated in the interest of "national security". The absence of any clear definition of "national security" interests is seen as a threat to patentees, especially to foreign ones. A patentee may lose his patent without any possibility of a court appeal. The circumstances of expropriation will not be decided by any special legislation or by the judiciary. It will be decided by a group of "experts" composed of people from high-ranking positions in the government, including the military, with strong nationalistic ideas.¹¹² In the Brazil, "national security" could involve a situation of war against other countries, catastrophic events, internal political instability, or when action by the government is seen as essential to the development of the country. In this last case, the expropriation of a patent could be invoked on the grounds that its existence hinders the development of a productive national industry or sector, essential to the national economy. In addition, the process of

¹⁰⁸ See art. 33 Law 5.772/71.

¹⁰⁹ See art. 33 paragraph 1.

¹¹⁰ See art. 49 (a) and (b).

¹¹¹ See art. 94.

¹¹² According to the new Constitution, the "Secretaria- Geral do Conselho de Seguranca Nacional" (National Security Cabinet) will be composed of members from the Army, the International Relations Ministry, the Ministry of Planning, the Ministry of Justice etc. See art. 91 of the Brazilian Constitution 1988.

approval is secret and not made public.

Although there has been no case of expropriation of a patent registered in Brazil to date, and very little use of the compulsory licensing provisions has been made, their existence demonstrates the sense of distrust towards foreign inventors. This can have a considerable negative effect. As Table I below shows, the majority of patents granted by the INPI come from foreign applicants. Thus, the negative impact on those applicants could be stronger than on domestic ones.

TABLE I: INDUSTRIAL PROPERTY STATISTICS BRAZIL

Year	Applicationn for patents filled by		Grants of patents to	
	Residents	Non residents	Non residents	Residents
1988	2.342	7.850	2.553	487
(N)	2.338	4.546	2.553	487
(P)	4	3.304		
1989	2.323	8.712	3.036	474
(N)	2.323	4.657	3.036	474
(P)		4.055		
1990	2.430	10.004	2.902	453
(N)	2.427	4.148	2.902 (N)	453
(P)	3	5.859		
1991	2.360	10.409	2.078	341
(N)	2.352	3.213	2.078	341
(P)	8	7.196		

Codes: (N): Patent applications filed directly with the office concerned and grants made on the basis of such applications. (P): International patent applications filed under the Patent Cooperation Treaty (PCT) and grants made on the basis of such applications.

Source: Industrial property statistics (WIPO)- Geneva- 1988- 1989- 1990- 1991

Another barrier imposed has been the application of rules often different and less protective compared to those found in industrialised countries. An example of this is the difference between the standard of the inventive step required by the national Patent Office and that required by patent offices in other countries.¹¹³ The difficulty here is the confusing provisions of the Brazilian Intellectual Property Code which omits the inventive step as being a third basic requisite for patentability in Brazil. Nevertheless, examiners of the INPI have applied art. 9 (e) as the inventive step provision of the Code:

"Art. 9. The following shall not be patentable:

(e) combinations of known processes, means or elements, mere changes in form, proportions, dimensions or material unless the overall results produces a new or different technical effect not covered by the prohibitions in this section."

In attempting to make up for the omission of an inventive step requirement in art. 6, art. 9 (e) creates serious problems for applicants. The terms used in art. 9 (e) are too vague and broad. They do not define the term "inventive step". Instead of affirming what inventive step is, the law defines it insufficiently by setting out what is not an inventive step.

According to practitioners, examiners at the Brazilian Patent Office have had difficulties in applying art. 9 (e) in practice.¹¹⁴ They have constantly been on the alert attempting to identify such things as "combinations of known processes", "mere changes in form, proportions, dimensions or materials".¹¹⁵

Thus, it seems that art. 9 (e) complicates a subject which is already difficult in theory and in practice. The result of this has been to create an unfavourable climate for

¹¹³ See Gosain, Rana, "Non-obviousness in Brazilian Patent Practice" [1992] 18 *Managing Intellectual Property* at pp. 10-12.

¹¹⁴ *Id.* p. 10.

¹¹⁵ It seems that the Examining Board of the Patent Office has not set any boundaries or routes to inventive step requirements nor has it set guidelines to help understand its decisions on the subject.

Normative Act n. 17 issued in 11th May 1976 to complement patent rules merely defined inventive step as "the exercise of the capacity of creation". This definition is unclear. *Id.*

applicants by refusing to grant patents on the basis of failure to fulfil the inventive step requirement. Alternatively, in response to the Patent Office's requirement, applicants have been revising applications, or appealing against rejection, or applying for utility model protection instead.¹¹⁶

For foreign applicants, especially transnational companies, the alternative route, which involves applying for utility model protection, does not meet their needs. The fact that large investment is made, and time consumed, in developing a new product, can be an important factor in explaining their refusal to pursue the alternative route to utility model protection. Therefore, art. 9 (e) can pose an obstacle to patenting in Brazil.

According to Brazilian practitioners,¹¹⁷ American applicants in Brazil have experienced difficulties in fulfilling the inventive step requirement. In the United States, for an invention to be patented, the applicant has, in general, to show a narrower improvement over the prior art than in Brazil.¹¹⁸ In Europe, besides a clear definition of inventive step in the law of EPC member countries,¹¹⁹ a number of tests and guidelines have been issued by the EPO. They are intended to clarify "inventive step". In England, the judges have been attempting to define more clearly this subject since the last century. The judges' work has facilitated the task of practitioners and applicants, as well as examiners, in assessing obviousness and defining the route for successful applications.¹²⁰

The criticism of the Code's provisions does not lie in the fact that foreign applicants waste time and money obtaining a patent in Brazil. It is the fact that some Code provisions adopt a clear policy of keeping investors out of Brazil. Among the provisions, I will elaborate upon two areas that significantly affect the inflow of foreign investment.

¹¹⁶ *Id.* p. 11.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ According to the English Patent Act 1977, "an invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of state of the art by virtue only of section 2 (2) above (and disregarding section 2 (3) above)".

¹²⁰ For further comments on obviousness assessment see Cornish, *op. cit.* 37 in Chapter One at pp. 130-136. See also Phillips, *op. cit.* 51 in Chapter One at pp. 46-48.

3.5.2 The Protection to Biotechnological Inventions:

Biotechnology worldwide has been one of the fastest growing economic areas. From the significant disinterest in biotechnology research during the 60's, large international chemical industries such as Shell, ICI and BP are reported to have spent about US\$ 10 billion in the seventies on joint ventures with seed companies and on research into biotechnology.¹²¹ Hundreds of biotechnology industries have been created and millions of dollars have been put into research into finding and developing new techniques. Moreover, specialised biotechnology companies, such as Genentech, have made significant commercial profits.¹²² Also, the ten biggest industries in the research and production of seeds are estimated to have had sales of over US\$ 2.5 billion in 1987.¹²³

The interest in biotechnology has grown because of the possibility of developing new methods and creating new industrial products and agricultural goods in a cheaper and more efficient way. It is an essential industrial tool. It is considered to be a new way of solving various economic problems, especially those aggravated by extreme natural and geographical conditions such as dry and wet regions, hot and cold areas. Being industrially applicable, biotechnology can reduce industrial costs and improve the quality of products. Moreover, it can help the environment by using biological cleaners such as microorganisms, and by creating new products to be used in agriculture which are more environmentally friendly. Another example is the possibility of pharmaceutical companies using microorganisms to produce new medicines instead of using chemicals, thereby reducing the side effects to the human body. Biotechnology may also create new plants more resistant to diseases with tastier and more nutritional fruits. Moreover, it can have

¹²¹ See Christie, Andrew, *Rights to Plant Innovation: A Comparative View*, 1989 unpublished LLM dissertation (Queen Mary College, London) at p. 1.

¹²² Genentech is reported to have obtained profits of US\$ 352,583 in 1986, US\$ 42,230 in 1987 and US\$ 311,732 in 1988. See *Biotechnology: International Environment and Perspectives for Brazil (Biotecnologia: Cenário Internacional e Perspectivas Para o Brasil)*, 1990 (Area de Planejamento- DEEST, Brasília) at p. 70 hereafter called BioPlan.

¹²³ See *The Economist*, 15th August 1987 at p. 56.

positive consequences for farmers expenditure which will, in turn, be reflected in the final price of agricultural goods.¹²⁴

The results already obtained by biotechnology and its promising future has led to calls for legal protection for the creation and development of biotechnological products and processes. The argument used has been the need to protect the large investment made in this area. Biotechnological research and the development of products is a most uncertain field. Therefore, large amounts of money must be spent in providing qualified personnel, investing in equipment, fitting the results of the research to the needs of the market, and securing acceptance of the products. This can be a time-consuming and risky business.

Accordingly, a main target for the industry has been the protection of investment. Consequently, much attention has been focused on the legal protection of intellectual property in biotechnology.

3.5.2.1 Intellectual Property Protection to Biotechnology in the United States:

In the United States the advancement of intellectual property protection has been closely followed by a growth of biotechnology. The United States was the first country to extend legal protection to biotechnology. In 1930, the Congress enacted the Plant Patent Act (PPA) allowing patent protection for plant varieties other than tube-propagated plants that could be reproduced asexually.¹²⁵

¹²⁴ See Dias, Jose C. V., *The Intellectual Property Rights in Plant Varieties and the Emerging Perspectives of Changes in the Patent law and the PVR System- The Draft Directive in Study*, 1990 unpublished LLM dissertation (University of Kent, Canterbury) at p. 2.

¹²⁵ See 35 USC paragraph 161 and 163:
Paragraph 161. Patents for plants:

"Whoever invents or discovers and asexually reproduces any distinct and new variety of plants, including cultivated spouts, mutants, hybrids, and new newly found seedlings, other than a tube propagated plant or a plant found in an uncultivated state, may obtain a patent therefore, subject to the conditions and requirements of title."

The provisions of this title relating to patents for inventions shall apply to patents for plants, except as otherwise provided."

The decision to extend patent protection to plant varieties was due to the lack of proprietary protection for breeders. Prior to 1930, new varieties could be developed and reproduced by anyone besides the breeder. Thus, breeders were prevented from profiting since they did not have the monopoly of reproduction. The only alternative for the breeder to recover investment was through charging high initial prices for the specimens marketed.¹²⁶

The PPA can be regarded as a government strategy to develop a new sector that could benefit agriculture in the United States. By guaranteeing that investment could be recouped and profited from, the American government encouraged researchers to seek solutions for losses occurring in agriculture from plant diseases.¹²⁷ They believed that breeders could develop new plants more resistant to diseases, plagues, cold and dry seasons, and suitable for hot and cold regions.¹²⁸

Once the patent has been granted, the patentee has an absolute right to exclude others from asexually reproducing the plant or selling the plant so reproduced.¹²⁹ The non-extension of protection to sexually reproduced plants was considered an anomaly and was removed after 40 years with the Plant Variety Protection Act (PVPA) 1970.

The importance of this Act in protecting new developments in biotechnology can be seen by the number of plant patents granted. Up to 1987, more than 6,000 plant patents were granted by the American PTO.¹³⁰

Paragraph 163. Grant.

"In the case of plant patent the grant shall be of the right to exclude others from asexually reproducing the plant or selling or using the plant so reproduced."

¹²⁶ See "New developments in Biotechnology", [1989] 5 Patenting life. Congress of the USA Office of Technology Assessment, Washington at p. 71 hereafter called "Biotech Developments".

¹²⁷ At that time, two major crops were affected by diseases. The first one was the peach plantation which was attacked by the "phony peach disease". The second was the chestnut which was threatened by the "chestnut blight". *Id.*

¹²⁸ *Id.*

¹²⁹ The variety to be protected has also to comply with the patentability requirements: novelty, obviousness, industrial applicability. The description requirement is applied loosely according to section 162: "No plant shall be declared invalid for non-compliance with section 112 of this title if the description is as complete as reasonably possible".

Judicial cases and interpretations have helped to dissipate most of the legal problems involving patentability of plant patents. See *Yoder Brothers Inc. v. California- Florida Plant Corp. et al* [1976] 537 F. 2d. 1347, 193 USPQ 264 (5th Cir.), *Pan American Plant Co. v. Matsui* [1977] 433 F. Supp. 693, 198 USPQ 462 (N. D. Calif.) and *Kim Brothers v. Magler* [1960] 276 F. 2d. 259 (9th Circ.).

¹³⁰ "Biotech Developments", *op. cit.* 126 at p. 72.

Another important aspect of the PPA was that it dismantled the predominant view that "products of nature" could not be legally protected under the patent system. It then initiated discussions and opened the possibility of patent protection to other "natural matter".¹³¹

Thus, in 1980, the Supreme Court recognised the patentability of microorganisms modified by genetic engineering.¹³² In the *Chakrabarty case* the Supreme Court reached the conclusion that a humanly made, genetically engineered bacterium was patentable. The case was concerned with the patentability of a bacterium from the genus *Pseudomonas* containing two stable energy-generating plasmids. The genetically engineered plasmid coded, breaks down multiple components of crude oil.¹³³

"The patent claims were of three types: (1) process claims for the method of producing a bacteria; (2) claims for an inoculum comprised of an earlier material floating in water, such as straw and the new bacteria; (3) claims for the bacteria themselves".

The patent examiner rejected claim (3) on the grounds that microorganisms were products found in nature therefore not considered patentable subject matter. The appeal to the Patent Office Board of Appeals was also rejected on the same grounds. The last hope for *Chakrabarty* was to appeal to the Supreme Court. In its decision of the *Chakrabarty case*, the Supreme Court held that insofar as a patentable subject matter is not "nature's handiwork", but is achieved by human intervention, it is possible to patent it. The patentee, in this case, had produced a new bacterium not found anywhere in nature. The bacterium was his creation.

This decision in the *Chakrabarty Case* was a breakthrough since the discussion did

¹³¹ As early as 1977, in the United States, the President's Advisory Committee on Industrial Innovation supported the idea of extending patents to forms of life: "Unhindered by the threat of piracy, there will be stronger incentives to invest money in new and useful technology". See Whaite, Robin and John, Nigel, "Biotechnological Patents in Europe- The Draft Directive", [1989] 5 EIPR at p. 145.

¹³² *Diamond v. Chakrabarty* [1980] 447 U.S. 303.

¹³³ *Id.* at p. 305

not focus on whether the bacterium was living or inanimate matter but on whether it was already in nature, or a man-made creation. Moreover, it opened up again the possibility to patenting any living matter, as long as the patent requirements were fulfilled.

The changing legal conception was important for the creation of the third protective legal instrument offered by U.S. intellectual property law to breeders: the "Utility Patent" system.

This legal system was developed by the Board of Patent Appeals and Interferences (BPAI)'s ruling in *Ex Parte Hibberd*.¹³⁴ The BPAI ruled that seeds, hybrid seeds, plants and plant tissue culture having increased levels of tryptophan were patentable subject-matter under 35 U.S.C. 101. In this case, the BPAI pronounced differently from the PTO examiners by ruling that the presence of two forms of legal protection for plants, the PPA and the PVPA, did not preclude the availability of another. Being a human made plant, it could be protected by the patent law.

Thus, the BPAI ruled that plants are patentable subject-matter under section 101 of the U.S. patent law by utility patents. The protection afforded to plants included those covered by the PVPA, those protected by the PPA and those reproduced by tubers and hybrids.

Utility patents are only granted if the invention fulfils the patentability requirements: novelty, non-obviousness, utility and description. The description requisite is understood to be very strict since the invention must be completely described "to enable any person skilled in the art... to make and use the same".¹³⁵

One very important characteristic of "utility patents" is the possibility to file different claims. In this case, protection can be given to a plant, its parts and its species.¹³⁶

¹³⁴ 227 U.S.P.Q 2D 443 (PTO Bd. Pat. App. e Int. 1985).

¹³⁵ See 35 U.S.C. 112.

¹³⁶ For comparative studies between PPA, PVPA and the Utility patents see "Biotech Developments", *op. cit.* 126 at p. 76 and Lesser, W., "Seed Patent Forecast" [1986] 4 Bio/technology at p. 783.

The third form of protection available in the United States to plant breeders is the Plant Variety Protection Act of 1970. It was provided so that sexually reproduced varieties could be protected.¹³⁷ The decision to patent sexually reproduced varieties was based on the increasing private investment in research and development. The commercial opportunities for the breeders led them to seek legal protection. Also, the enactment of the Act was in great part influenced by the agreement in an international convention on plant varieties in 1961: the UPOV Convention which created the Plant Variety System (PVR).

In general terms, the PVPA provisions are similar to those of the International Plant Variety System as far as the availability and scope of protection are concerned: the minimum term for protection is 18 years and the effects of the rights granted extend to production for commercial purposes, offering for sale and marketing. Also it excepts from the protection it confers, "farmers" who retain seeds for planting, and reproduction of the variety for research purposes.

The legal protection offered in the United States is regarded as sufficient for breeders and investors in biotechnology. In the United States, everything that has significant human intervention or creation can be legally protected.

The impact of such legal developments in the United States seems to have been in favour of the research and development of biotechnology and in the creation of biotechnology industries. In the field of genetic engineering the number of patents filed increased by 600%.¹³⁸ Also, helped by the fact that proprietary rights over investment in new developments were guaranteed, since the early 1970's, more than 300 industries have been founded in the United States.¹³⁹

¹³⁷ At that time, the argument that sexually reproduced varieties could replicate true-to-type was accepted by breeders and researchers. This helped promote the interest of breeders in developing new varieties that could have the same results when applied in any kind of soil, climate etc. "Biotech Developments", *Id.* p. 73.

¹³⁸ *Proposal for a Council Directive on the Legal Protection of Biotechnology Invention* (presented by the Commission) EEC- COM (88) 496 final- SYN 159 at paragraph 18 hereafter called EEC BioDirective.

¹³⁹ See Debner, Mark D. and Bruce, Nancy G. "The Greening of Biotechnology: the Growth of the U.S. Biotechnology Industry" [1987] 5 TIBTECH at p. 270.

In relation to the protection afforded to "plant varieties" an important sign of industry's perception of the PVPA's benefits has been the fact that large multinational chemical companies have become interested in the agricultural sector.¹⁴⁰ The fact that the law can be an instrument to increase profits has influenced them to acquire or merge with seeds companies.¹⁴¹ According to Kloppenberg's study,¹⁴² fourteen major multinationals (some from European Community countries) have over 70 U.S. seed companies as subsidiaries. Of the ten biggest seed companies in the U.S., eight have become subsidiaries of multinationals.

3.5.2.2 The EC's Commitment to Improving its Protection of Biotechnological Inventions:

In the European Community, although the biotechnological research sector has been advancing, it seems that European industries are losing ground to American and Japanese enterprises.

One of the reasons for this has been the existing legal framework in the European Community. Besides biotechnological legal protection being much more restrictive, the lack of uniform legislation in the member states and the existence of doubts about biotechnological protection in each member state, have led biotechnology companies to a question whether it is worth increasing biotechnology investment in Europe at all.¹⁴³

The existing legal framework in the European Community for intellectual property for biotechnological inventions has been strongly influenced by two international conventions: the UPOV¹⁴⁴ Convention and the Strasbourg Convention signed in 1963. The

¹⁴⁰ Important reasons for the multinational's interest in the seeds industry is the increasing price of world grain and the shrinking of world grain markets during the 1970's. See Weil, Vivian and Snapper, J.W., *Owning Scientific and Technical Information: Value and Ethical Issues*, 1989 (Rutgers University Press, London) at p. 116.

¹⁴¹ *Id.*

¹⁴² See Kloppenberg, J., Jr., *First the Seed: A Social History of Plant Breeding and the Seed Industry in the United States* 1985 PhD dissertation (Cornell University, United States) cited at Weil, *Id.* p. 116.

¹⁴³ See EEC BioDirective, *op. cit.* 138 at p. 5

¹⁴⁴ UPOV stands for International Convention for the Protection of New Varieties of Plants.

was frequently argued to be unjustifiable and to have a negative impact on private investment in biotechnology.¹⁵⁰ Furthermore, the fact that the UPOV amendment in 1978 opened up the possibility of double protection in the United States and Japan did not improve the situation in the EC.¹⁵¹

In March 1991, a new international conference of the UPOV Convention took place in Geneva. The objective of this conference was mainly to revise some provisions of the Convention. Among the main changes was the possibility to offer both patent and certificate protection to plant varieties. Thus, the ban on double protection was removed.¹⁵² Another very important change has been the extension of the breeder's right to harvested material (plants and its parts) where these were obtained through the unauthorised use of protected propagating material.¹⁵³ Finally, the "farmers seed exemption" was kept in the 1991 Act but with a more careful and restrictive wording:

"Art. 15(2) Each contracting party may, within reasonable limits and subject to the safeguarding of the legitimate interest of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety."

Thus, the signatory states will examine the concession of the "farmers exemption" carefully so that this privilege does not extend to the agricultural sector where this is not a common practice.

The changes made in the 1991 Act, when adopted by the EC members, will be important to the development of biotechnology in the EC. By adopting it the EC member states will strengthen the proprietary rights of breeders, thereby fostering investment.

¹⁵⁰ Companies wanted strong protection and broader proprietary rights so that large biotech investments could be recovered and profits seen.

¹⁵¹ According to art. 37(1) UPOV: "Notwithstanding the provisions of art. 2(1), any state which prior to the end of the period during which this Act is open for signature, provides for protection under the different forms referred to in art. 2(1) for one and the same genus or species, may continue to do so..."

¹⁵² Art. 2 of the 1991 Act is silent about the double protection thereby making possible the patentability of plant varieties.

¹⁵³ See Art. 14(2) of the 1991 Act.

Nevertheless, a more secure legal environment in the EC will only be completely obtained when the European Patent Convention is modified. The Commission of the European Communities' response to the need for change has been to put forward a proposal relating to the legal protection of biotechnology inventions.¹⁵⁴ The basic line of the proposed Directive is to increase the scope of protection to biotechnology inventions by resolving ambiguous expressions, creating new provisions and confirming interpretations of the EPO. Thus, by adopting a more up to date legal framework the Commission aims to adapt the Patent System to the fast advancement of biotechnology and to the needs of industries in this sector.

3.5.2.3 The Existing Technological Infrastructure in Brazil for Biotechnological Inventions:

Aiming to benefit from biotechnological development, other countries have also taken positive steps to foster investment in this area. Mexico has recently extended patent protection to biotechnological inventions.¹⁵⁵ Uruguay and Argentina have asked the Council of the UPOV Convention for advice so as to incorporate the 1979 Act into their national laws.¹⁵⁶ Moreover, these two countries have been reported to be admitting the patentability of biotechnology inventions.

Not so far away from those countries, the so-called "pearl market" of Latin America has not admitted or realised the effects of intellectual property legislation on investment in the biotechnological field, although it has been regarded as an important area by the Brazilian government. During the previous government,¹⁵⁷ a series of actions were taken and a government policy was drawn up to encourage a stronger and faster development of

¹⁵⁴ See "EEC BioDirective", *op. cit.* 138.

¹⁵⁵ See Mexican Law, *op. cit.* 1.

¹⁵⁶ This means that their instrument of accession to the UPOV will soon be deposited. See "Annual Report of the Secretary-General for 1991 - Activities of the UPOV" [1991] 30 Industrial Property at p. 121.

¹⁵⁷ The previous government was administered by Mr. Sarney. He governed from 1986 to 1990.

this sector.

During his period in government, President Sarney created a special Secretaryship for biotechnology which was, and still is, directly subordinate to the Ministry of Science and Technology.¹⁵⁸ The importance of this action was that it enabled technocrats to take decisions to implement the policy drawn up by the government faster. Furthermore, as biotechnology has been within the province of the Ministry of Technology, it has been easier to give and to reallocate resources from one area to the development of biotechnology.

Another important action was the establishment of regional "poles" of biotechnology. The "poles" are research centres that serve to integrate industry's interest with public research. Six "poles" have been envisaged and those, in the states of Brasilia, Sao Paulo, Rio de Janeiro, Minas Gerais, Rio Grande do Sul and Parana are already fully operative.¹⁵⁹

At an international level, biotechnology also received special attention. In this case, the Brazilian government signed a co-operation agreement with Argentina in 1985.¹⁶⁰ The objective was the exchange of scientific data, technology and business information on biotechnology.

Although it is difficult to prove in quantitative terms the impact of the government's policy on the actual level of development in biotechnology in Brazil, it seems that it has affected biotechnology positively. Firstly, one can see the change in some universities where a basic research mentality has developed into a more applied and commercial research one. One example is the University of Brasilia where the author has seen researchers' concern to connect their research to the development of commercial products. Secondly, the policy has helped to focus companies' attention on a promising area

¹⁵⁸ See Sorj, Bernardo and Wilkinson John, "Brazilian Policies in Biotechnologies: a Post-ethanol Strategy?" [1988] *Bio/technology* at pp. 153-155.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

previously undiscovered. Thus, a series of companies, most of them private, have been set up to explore opportunities in the biotechnology sector. Most of them co-operate with the "poles" established under that administration.¹⁶¹

At the moment, biotechnology in Brazil is at an intermediate stage of development when compared with countries such as the United States, Japan and the European Community countries.

The main characteristic of this intermediate stage has been the emergence of sufficient scientific knowledge and technological infrastructure in some centres, universities and commercial enterprises. But, only a few results can be seen in the market. There are problems in three areas. Firstly, there has been difficulties in connecting research with the development of products. Thus, much research has been done, yet the lack of experience and the lack of defined commercial objectives have affected the development of biotechnologically-based products.¹⁶² This situation looks worse if one considers that most of the research done in Brazil did not have a commercial or end-product aim. Secondly, the lack of a strong educational structure means that although the development of highly qualified human resources has been steady, and some of them are already being trained by Brazilian institutions, it has been done on a significantly smaller scale than is required. Thirdly, limitations on infrastructure for political reasons still persist in Brazil. Hence, the limitations on the importation of technical equipment and the excessive bureaucracy hinder greater advancement.¹⁶³ In addition, financing biotechnology research is still done insufficiently by the state¹⁶⁴ and there are a series of legal barriers relating to intellectual property rights that hinder the inflow of technology.

¹⁶¹ See *Bio-Rio Pole's Studies on Biotechnology Investment in Brazil* (Empreendimentos de Biotecnologia no Brasil), 1991 (Fundacao Bio-Rio/Iplanrio, Rio de Janeiro) hereafter called Bio-Rio.

¹⁶² See BioPlan, *op. cit.* 122 at p. 187.

¹⁶³ The new government has already reduced the importation bureaucracy. Before that, importing laboratory equipment could take more than three months. Nowadays, there exists some red tape to complicate the import of equipment such as high taxes paid to use the Brazilian ports.

¹⁶⁴ The state presence in financing biotech research can be seen as negative since its support can be affected by political interests, as seen in other areas. Moreover, the state's interest in determined research might not match with the company's. BioPlan, *op. cit.* 122 at p. 147.

Nevertheless, many companies, domestic and foreign, have shown commercial interest in biotechnology in Brazil. Table II shows some of the existing Brazilian domestic companies in the market.

Table II: BRAZILIAN BIOTECHNOLOGY: PRIVATE ENTERPRISES*

COMPANY	FIELDS OF	R & D AREAS	PRINCIPAL
Biobras	Chemicals and pharmaceuticals; human health	Medicines for human health; enzymes	Enzymes; diagnostic products
Bioferm	R & D for chemical and pharmaceuticals	Vaccines; human and animal health	
Biofill	Bacterial cellulose by-products		Artificial skin
Biomatrix s.a.	Plant propagation using tissue culture; plant genetic improvement using cell and molecular manipulation	Plant micropropagation using tissue culture	Disease free and genetically selected seedlings of different species
Biotest s.a.	Diagnostics; human health	Diagnostics	Serums
Carfepe s.a.	Vaccines; veterinary pharmaceuticals		Vaccines
Cibran	Antibiotics		Antibiotics
Companhia Florestal Monte Dourado	Forestry genetics		
Cultilab	Diagnostic and human health	New types of cell strains for virology, immunology, serology	culture media, sera and other materials for cell culture
Embrabio	Human health	Vaccines	Vaccines
Laboratorio Sintofarma	Chemical and pharmaceuticals; vaccines		Pharmaceutical specialities
Nitral	Agricultural inoculants		Agricultural inoculants
Quimbrasil s/a	Pharmaceuticals and chemicals; vaccines; human health	Extraction of sulphur from phosphogypsum by bacterial route; phosphorus solubilization using the bacterial route	Vaccines, fertilizers
SBS	Agroindustry		Basic potato seed; strawberry, mulberry, pineapple and banana seedlings
Sementes Agroceres	Agriculture; livestock	Genetic improvement	Hybrid corn, vegetable and sorghum seed

*This list only includes some of the national enterprises associated with ABRABI. Source: Sorj, Bernardo and Wilkinson, John, "Brazilian Policies in Biotechnology: A Post-ethanol Strategy? [1988] Bio/technology 154.

Among domestic companies, the enterprises involved in the production of paper and cellulose constitute the strongest group present in biotechnology. Their presence is due to the desire to maintain their competitive position in the international market for cellulose.¹⁶⁵ Thus, their investment in biotechnological techniques has been estimated at between US\$ 200 million to US\$ 500 million in 1988.¹⁶⁶ The main objective of this investment has been genetic or natural selection improvements to plant varieties in the cellulose sector and their adaptation to different climates and soils. Among the companies involved with biotechnological research are Aracruz, Klabin and Suzano.

An important biotechnology area that has attracted the commercial attention of companies has been the genetic modification and improvement of seeds. At least two domestic companies have been reported to be participating in this area: SBS and Agrocere. Agrocere is the leading domestic seed company to be seriously involved with biotechnology. Its interest has been the control of the domestic market for genetically engineered corn seed and vegetable seed. With corn hybrids, the company already controls 45% of the market. In this respect, the company has made significant investment in new techniques in biotechnology and concluded agreements with universities.¹⁶⁷ Furthermore, this company has entered into the area of developing animal varieties. However, this programme is only in its initial stages. The major step taken so far has been to enter into joint-venture agreements with the American Pic-Pig Improvement Company for the improvement of new pork varieties and another agreement with Ross Breeders for chicken varieties.¹⁶⁸

Another area where domestic industries have shown an interest is in the human health field based on the production of pharmaceuticals and related products. Despite the transnational dominance in this area with massive investment in biotechnology research,

¹⁶⁵ Brazil occupies the eighth position in the international market with growth perspectives of 2 to 3% a year. *Id.* p. 137.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.* at p. 142.

¹⁶⁸ Investment done by Agrocere in the Ross Breeders investment amounted to US\$ 18 million. *Id.* p. 141.

domestic companies have had some degree of success. Four companies are outstanding: BioBras, Cibran, Embrabio and Biofill. Biobras, in association with the University of Brasilia, has succeeded in obtaining the production of insulin from the genetic manipulation of a pig's pancreas. According to Dr. Spartacus,¹⁶⁹ Biobras is, at the moment, seeking patent protection in the United States. If successful, this enterprise will have good prospects to participate actively in the drug market for diabetes.

Biofill also has opportunities in the pharmaceutical/medical market. This enterprise concentrates its activities on the production of a therapeutic "artificial skin" used for skin burns, external surgery and skin recovery. The commercialisation of this product is done with the supervision of an Italian company called Farmitalia. This product has not only been sold in Brazil. Italy, Germany and Latin America countries are part of the Biofill market. At the moment, this product is being analysed by the Food and Drug Administration (FDA) so as to allow its commercialisation in the United States.¹⁷⁰ The company, with 32 staff members, is reported to have obtained profits of US\$ 1 million in 1990.¹⁷¹

One important characteristic of domestic biotechnology companies has been the commercial specialisation in only one area of the biotechnology market.¹⁷² This is due to their size, to their infrastructure and to their recent participation in biotechnology R & D which consequently forces them to concentrate their efforts into the development of one product.

In general terms, biotechnology companies in Brazil have good growth prospects in the internal and, at a later stage international market. Moreover, biotechnology worldwide is still a promising new area where much research must be done and much can be achieved. Therefore, it opens opportunities for less developed companies and late beginners.

¹⁶⁹ Interview with Dr. Spartacus, Professor of the University of Brasilia, held on the 7th July 1992 at the University of Brasilia-/Brazil.

¹⁷⁰ See Bio-Rio, *op. cit.* 161 at p. 43.

¹⁷¹ *Id.*

¹⁷² See BioPlan, *op. cit.* 122 at p. 133.

3.5.2.4 Biotechnology in Brazil: An Area of National Security:

It has been argued that a very important factor favourable to national companies in the domestic market has been the presence of inadequate intellectual property law that creates a kind of closed market for domestic enterprises and a permissive attitude towards acquiring technology without the payment of any fees or royalties. This is the case in Brazil where the Intellectual Property Code does not expressly prohibit the patentability of products and processes in biotechnology, and has no equivalent to Art. 53(b) EPC. However, art. 9 does set out a number of non-patentable inventions. These include:

"(b) substances, materials or products obtained by chemical processes or means, however processes for obtaining or transforming such substances, material or products shall be patentable;

(c) medicaments and nutritive or chemico-pharmaceutical substances, materials, mixtures or products of any kind, including processes for obtaining or modifying them;

(f) the uses or application of discoveries, including varieties or species of microorganisms for specific purposes;"

By analysing these three sections, it is possible to see that art. 9 leaves little if no room for the patenting of products and processes in biotechnology. Paragraph (b) prohibits the patenting of products obtained by chemical processes. This directly affects the development of new plant varieties modified by chemical, non-genetic processes. However, art. 9 (b) does not answer the question about the patentability of products when such products are obtained through the use of chemical processes and some biotechnological techniques. Nor does the Brazilian Patent Office. This fact creates uncertainty with regard to new biotechnology developments since some of them might involve the application of chemicals. The general question of patentability should be whether biotechnology techniques were constantly applied during the development of a new biological organism and

whether it was fundamental to the acquisition of the desired product. If the answer is yes, the substance should be patented even if chemical processes or means were used.

Art. 9(f) excludes the patenting of microorganisms and genetic material. According to paragraph (f), microorganism *per se* found in nature are not patentable subject matter. The argument is based on the belief that microorganisms as well as genetic material of living matter are elements of nature. Like the sun and the sea, they cannot be patented. Finding them in nature would be a discovery not an invention.

Nevertheless, the cited section omits those microorganisms isolated from nature and modified by human intervention. The INPI practice has been to interpret this section broadly. Therefore, it does not admit the patentability either of developed microorganisms or genetic material.

The decision not to patent microorganisms and genetic material manipulated by human intervention range from technical to political reasons. According to the INPI,¹⁷³ the analysis of inventions involving such subject matter has been suspended by the "Examining Patent Board". The problem has been the failure to establish procedures to deposit microorganisms. Brazil is not a signatory to the Budapest Treaty. Also, the INPI has not indicated centres in other countries where biological material can be deposited thereby complying with the patent requirement for sufficient description.

Brazilian participation in the Budapest Treaty has been considered, though it seems unlikely that Brazil will participate within three years due to the bureaucratic procedure involved in approving the participation. Nonetheless, the Brazilian Patent Office will have to find an alternative way or suffer the consequences of delaying biotechnology in Brazil.

A politically important reason that has blocked the patentability of microorganisms and genetic material modified by human intervention is the pressure exerted by religious

¹⁷³ See Mittelback, Maria Margarida Rodrigues, "Protecao de Biotecnologia" [1991] unpublished paper presented at the IX Congresso Inter-Americano de Propriedade Industrial (Brazil), 17th October 1991 at p. 11-13.

groups. The Catholic church has been the strongest opponent of patents of living matter.¹⁷⁴ Their view lies is any living matter in nature cannot be the property of anyone since it is God's creation alone. The presence of the Catholic church is not only felt in lobbying at the parliamentary level. By expressing its view against the patentability of microorganisms as well as condemning researchers for playing God, the Catholic church exerts its influence over a large element of the general public. Therefore, great public pressure is put on public authorities.

Although the law omits the possibility to patent products made by biotechnology processes or the use of microorganisms, and the biotechnology process itself, it is reported that the INPI has been allowing the patentability of the above subject matters. In one patent application, the INPI has granted a patent to a domestic company called Biofill for a biotechnology process and for its end product. The end product was an artificial skin for the recovery of wounds.¹⁷⁵ The artificial skin is a cellulose film which is made by the bacteria *Acetobacter xylenium*. Once a medium culture having as nutrients sources of nitrogen and carbohydrate is prepared, the culture of acetobacter is put to grow. The bacteria in this culture medium produces the cellulose film during its growth, and it deposits the cellulose on its surface.

Although, this is an important case, it cannot lead to the conclusion that products obtained by biotechnology processes, and the process itself are patentable. This can be said due to the unavailability of other cases for analysis. Also, no INPI official pronouncement or Guidelines on the patentability of biotechnology products have been made.

¹⁷⁴ Although it is difficult to quantify the pressure and its consequences at a political level, the Catholic groups are regarded to be among the strongest lobby groups in society making the government work according to its philosophy.

¹⁷⁵ See International application published under the Patent Convention Treaty (PCT). Priority application number PI 8404937. International Application number PCT/BR 85/00008. Priority country: Brazil. Priority date: 1st. October 1984.

In spite of that, the author believes that since the list of patentable subject matter, under art. 9 of the Code, is exhaustive, inventions not foreseen by this article should be patentable.

Paragraph (c) of art. 9 excludes the patentability of pharmaceutical products, food and their processes. The prohibition of pharmaceutical products and pharmaceutical processes includes those made or obtained by biotechnology. Nevertheless, at the time the patent law was enacted, art. (c) did not contemplate the development of biotechnology pharmaceuticals. The limitation of paragraph (c) aimed to control the strong presence of chemico-pharmaceutical multinationals.

The fear of the government has been the "external" control of an important area in Brazil. To allow patent protection for medicines would be to surrender national sovereignty. In this respect, by suppressing patentability in certain economic areas, domestic industries could have a chance of participating in the medicine market. Therefore, technology would be controlled by domestic not foreign companies.

The strategy used by the Brazilian government has not been to recognise the patentability of medicines, but to promote their commercialisation. In doing that, the government could "kill two birds with one stone": Medicines would be available to the population, and domestic pharmaceuticals companies could have an opportunity to copy those foreign medicines without paying any royalties. Therefore, the Brazilian pharmaceutical industries could develop by sharing the Brazilian market with multinationals.

The strategy of developing one economic sector to the detriment of foreign companies seems to apply to biotechnology. The fact that exclusive rights are not recognised whenever the subject-matter is **life** creates a kind of "reserve market" for domestic biotechnology companies. It is known that in some areas, such as computing and biotechnology, the market is very sensitive to the creation of new methods and products. Companies that possess a monopoly of technological development are regarded as having market advantage against competitors. In this case, patents are true company assets.

In the Brazilian case, the limitations of Intellectual Property Code, most specifically art. 9 (b), (c) and (f), in the patentability of living matter are regarded by the government authorities as favourable to the development of domestic biotechnology industries. The refusal to grant patents to biotechnology inventions means that any new product is in the public domain. Its use and reproduction by others would not be an infringement. The existence of such limitations in the patent law could however, cause foreign biotechnology companies to adopt a defensive strategy by being cautious of marketing their goods in Brazil.

Suppressing patentability in certain economic areas under the "national security" strategy has frequently been used by authorities in the last 20 years. The whole of art. 9 of the Intellectual Property Code is evidence of the inclination to limit foreign control of economic areas such as pharmaceuticals, chemicals and biotechnology. In this respect, Brazilian lawyers have identified limitations to the creation of "reserve market" for domestic companies in the above mentioned fields.¹⁷⁶

The identification can be made by comparing the objectives and instruments used in art. 9 with the information technology policy during the 1970's in Brazil. The information technology policy had as its objective the development of the computing sector in Brazil. The desire was to make Brazil technologically independent from developed countries. The instrument used was the creation of a protected market for domestic computer companies until they had absolutely dominated the technology and advanced in the market.¹⁷⁷ Thus, some areas such as microcomputers, mid-sized computers and peripheral devices were reserved for Brazilian companies to the detriment of foreign ones.

In the case of the chemico-pharmaceutical and biotechnology industry, it is art. 9

¹⁷⁶ See Leonardo, Flavio, "A Syndrome Known as Reserve" [1987] 3 Patent World at pp. 25-26.

¹⁷⁷ The informatics reserve market ended on 29th October 1992. It was called "import preemption". It differs from the "import substitution" policy in the sense that it relies entirely on the production of goods by locally owned companies. It has been called "assertive industrialisation" since it has attempted to end economic dependency from the developed world. See Evans, Peter, B., "Declining Hegemony and Assertive Industrialization: U.S.-Brazil Conflicts in the Computer Industry" [1989] 43 International Organization at pp. 207-208.

that creates a "market reserve" for domestic companies. Art. 9 has the same objectives and instruments seen in the "import pre-emption" information technology strategy. It aims to develop the biotechnology area by guaranteeing technological advantage to domestic companies. The method used has been to curb foreign companies' technological advantage of investment in research by not recognising proprietary rights.

The "market reserve" in information technology has been a symbol of desired economic independence for nationalists. It has been regarded as the correct tool to dominate high technology areas. Another view would be that government action has been to adopt a xenophobic "market reserve" policy whenever "national security" situations were involved.

One interesting and unbelievable fact has been the insistence of the Brazilian government in pursuing the above policy despite negative results and high costs. Although Brazilian companies increased their sales of computers from US\$ 1 billion to US\$ 7.4 billion since the reserve was created, the models sold are outdated.¹⁷⁸ Also, the price of a domestic personal computer is three times higher than foreign one. Thus, only a few people can afford one. In addition to that, there was a restriction on the inflow of foreign investment and foreign companies' refusal to transfer technology to Brazil¹⁷⁹

In the case of chemico-pharmaceuticals, the "market reserve" has not helped domestic companies to obtain the desired results. They seem not to have developed any products from their own research. On the contrary, they are reported to have used illegally know-how without any royalty payments.¹⁸⁰ Furthermore, the "market reserve" has had a negative impact on foreign investment. Not deluded by the "pearl market" of Latin America, in the last six years, eighteen companies have withdrawn from Brazil. Their departure has had a negative impact on the employment of 16.000 workers.¹⁸¹

¹⁷⁸ See "A Protectionist Virus in Brazil's Computer Plans", *Financial Times*, 23rd July 1991 at p. 3.

¹⁷⁹ According to section 4 of the Normative Act 15/75, unpatented technology cannot be licensed but only sold. In the case of software, as it is not protected by the Patent law, it is regarded as unpatented technology.

¹⁸⁰ See Daniel, Dennis, A., "Patents, Trademarks and Licensing- the Reality of Brazilian Protection" [1988] *January Patent World* at pp. 49-50.

¹⁸¹ See "O Pais da Pirataria" (Brazil: The Pirate's Country), *Veja* (Brazilian magazine), 23rd October 1991 at p. 95.

In biotechnology, the limitations on the patentability of biotechnological processes and products have not shown any significant results in the development of biotechnology in Brazil so far. On the contrary, it has produced low benefits with high future costs in view.

Accordingly, the prohibition on patenting microorganisms and on pharmaceutical biotechnology products or processes to improve food protein means that the Brazilian population will not benefit from the developments in this area. Companies, domestic or foreign involved in biotech, most probably will not sell their products in the market if there is the danger of losing it to pirate producers.¹⁸²

Furthermore, it seems unrealistic to argue that the lack of intellectual property in biotechnology favours domestic companies due to the creation of a "market reserve". Firstly, the "market reserve" in biotechnology could only serve for a limited time if combined with massive investment in research and development. However, massive investment has not been made by Brazilian companies due to their size. Therefore it is not going to be the "market reserve" that will place domestic companies ahead of foreign competitors ones. It is the investment made combined with the research and development results which counts. Secondly, the non-patentability of biotechnological inventions creates an unsatisfactory climate for the transfer of technology. It deprives domestic companies of the possibility of acquiring technology for its research. Thirdly, the non-

¹⁸² Biofill Industria e Comercio, owner of the products that help to recover damaged skin did not market its product before the granting of a patent by the Brazilian Patent Office.

recognition of intellectual proprietary rights has had a negative impact on the development of some biotechnology areas. According to Prof. Ruy Caldas,¹⁸³ one of the main reasons for the lower productivity of rice in Brazil has been the lack of proprietary rights. Enterprises have not engaged in rice R & D for fear of losing its product to illegal copiers. The impact of this non-investment is negative if one considers that rice consumption in Brazil is high and that an unnecessarily large amount of forest has been cut down for plantation purposes due to unproductivity. Added to this, one can link the low productivity of some agriculture crops and high costs with the inflation rate of Brazil.

Related to this limitation on the patentability of biotechnology has been the refusal of foreign biotechnology companies to invest in the Brazilian biotechnology sector. Participating in the Brazilian market has been a very risky business for foreign biotech companies despite its attractive market size and a presence of a relatively technological infrastructure. Problems such as the lack of adequate intellectual property, high import tariffs for laboratory equipment and the government distrust of foreign activities in high-tech areas are the major factors in preventing the inflow of foreign investment.¹⁸⁴ Accordingly, medium-sized foreign biotechnology companies maintain their absence from the Brazilian market. Indeed, no medium-sized American, English or Japanese companies are reported to participate in the market. Nonetheless, their desire to participate can be expressed by the request for patents in Brazil during the period 1980/90.

¹⁸³ Interview with Professor Ruy Caldas, former research director of Bioplanta do Brazil, and now Professor of the University of Brasilia. Interview held on the 26th June 1992.

¹⁸⁴ In spite of the fact that inflation in Brazil has always been high and the government interferes in the economy as it pleases, foreign companies are reported to have adjusted quickly to the conditions. They have been trying to offset the unfavourable economic climate with the size of the market and the special conditions granted to those who participate in the market (see Law of Similaris).

Table III: TEN FOREIGN COMPANIES LEADING THE REQUEST OF BIOTECHNOLOGY PATENTS IN BRAZIL DURING THE PERIOD 1980/90

Company	Country of origin	Percentage of requests
Genentech, Inc.	United States of America	7.3%
Stauffer Chemical Company	United States of America	4.1%
The Board of Regents, Univ. of Texas System	United States of America	4.1%
ICI Limited	England	4.11%
Biogen N. V	Holland	3.42%
Unilever N. V	England	3.42%
Agrigenetics Research A. Limited	United States of America	3.42%
Gist-Brocades N. V	Holland	2.73%
Microgenesys, Inc.	United States of America	2.73%
Rhone-Poulenc Agrochimie	France	2,73%

Source: Biotechnology protection. Paper presented by Maria Margarida Rodrigues Mittelbach on the Inter-American Congress on intellectual property. 17th October 1991.

The above table can be regarded as an indication of the interest of medium size companies in the Brazilian market. However, their participation involves risks. Firstly, there is the requirement found in the Brazilian patent law of the patentee to work his patent under the threat of compulsory licensing and forfeiture. Secondly, it is very difficult for the patentee to import instead of producing the goods in Brazil.

High import tariffs still exist despite the present government's commitment to reducing them, especially for pharmaceutical goods. Furthermore, importation of a patented product does not satisfy the working requirement which is imposed by article 49 of the Brazilian Intellectual Property Code. Accordingly, foreign companies that

been granted patent in Brazil have to participate in the Brazilian market by setting up a subsidiary, or a joint-venture or by licensing the technology.

Foreign companies' interest is due to the promising Brazilian market for biotechnology products. According to ABRABI (Brazilian Biotechnology Association), the Brazilian market for biotech products has been estimated to be higher than US\$ 600 million.¹⁸⁵ The expectation is that this market will grow to US\$ 6 billion by the end of the decade (6% of the international market of modern biotechnology). The pharmaceutical and agriculture markets have been big markets for companies in this field.¹⁸⁶ Nevertheless, it seems that foreign companies will not exploit the opportunities available if adverse conditions, such as the lack of intellectual property protection rights, persist. Thus, the costs of making and producing in Brazil seem to be higher than the benefits. For foreign companies to invest in the production of biotechnology products, they have to have the guarantee that investments will be recovered.

Another point to be addressed is that copiers damage the image of goods produced by the true owners. This very commonly happens in the market. People who are not confident that what they are buying is the real thing, will tend to stop using the product and shift to a product produced by another company. In the case of biotechnology, farmers or the public in general will not buy a copied product if it threatens their whole plantation, or their lives are jeopardised by it.

The foreign companies marketing and producing biotechnology products in Brazil are those transnational leaders in the international biotechnology market such as Monsanto, ICI, Du Pont, Rhone Poulenc, Hoescht and BASF. Their presence in the market is characterised by their diversification strategies in the area and their effective managerial and business adaptation to Brazilian market conditions. These two characteristics can

¹⁸⁵ See *Programa de Competitividade Industrial: Sector Biotecnologia. Proposta da ABRABI*, 1990 (ABRABI, Brasilia) at p. 7 hereafter called ABRABI Programme.

¹⁸⁶ Brazil is the seventh largest consumer of pharmaceutical goods. It consumes US\$ 14 billion yearly. See BioPlan, *op. cit.* 122 at p. 135.

explain how they have survived in Brazil despite often adverse conditions.

Because of the lack of proprietary rights in biotechnology, transnationals seem to make use of trade secrets. According to Ruy Caldas,¹⁸⁷ this strategy seems to be a positive alternative used by transnationals and some Brazilian companies to avoid the prohibitions of the patent law. However, transnationals have been lobbying in Parliament for the creation of an intellectual property law to strengthen proprietary rights. This attitude can be explained by the high costs and risks involved in keeping technological advancement under trade secret law, especially if one has regard to the fact that Brazilian trade secret law is not the most comprehensive.¹⁸⁸ The Brazilian trade secret law in general can be regarded as weak in relation to the value of the subject. Three main negative points can be observed. Firstly, the law is short and vague. Thus, it does not define a trade secret. Secondly, it does not establish the requisites to determine what information or processes can be classified as a trade secrets. In this sense, the owner of a trade secret will never know if the transfer of important information by an employee will be regarded as an infringement or not.¹⁸⁹ This makes the owner more vigilant about contract confidentiality and security control of documents thereby increasing the costs of keeping it secret. Thirdly, the criminal penalty established by the law is insufficient, although the owner can claim losses and damage as indemnity for the losses caused against his business.¹⁹⁰

In the light of this, the presence of foreign companies in Brazil is still modest

¹⁸⁷ Ruy Caldas' interview, *op. cit.* 183.

¹⁸⁸ The Brazilian trade secret law is regulated by art. 178 of the industrial property code of 1945: Art. 178- "An unfair competition crime is committed by whoever: ...XI- Discloses or exploits, without authorisation, when performing services for others, a manufacturing secret which was entrusted or of which he came to have knowledge as a result of this work; XII- Discloses or uses without authorisation a business secret which was entrusted or of which he came to have knowledge as a result of his work even if after he has left the employment; Penalty- Imprisonment of three months to one year or a fine of 1,000 to 10,000 cruzeiros; Sole paragraph- The injured party shall have the right to demand losses and damages as indemnity for the losses caused by other acts of unfair competition, not listed in this article, apt to harm its reputation or business, create confusion between commercial or industrial establishments or among traded products and articles."

¹⁸⁹ The normal practice has been the use of other courses of action to protect trade secrets instead of requesting art. 178 such as larceny, misappropriation, when physical illegal appropriation of documents takes place. Also, owners of trade secrets have used art. 178 parag. IX to go against a competitor who tried to corrupt his employee. See Fischer, George Charles, "Trade Secrets Protection in Brazil" [1987] 22 *Les Nouvelles* at p. 171.

¹⁹⁰ The fact that criminal penalties are mild, encourages employees to take risks to transgress trade secrets. The risks taken, which will be rewarded, can be offset by the three to twelve months imprisonment. However, for companies, weaker penalties can affect their stability since the breach, in one way or another, leads to irreparable losses to them.

compared to other attractive markets such as Asia, Europe and North America. Thus, transnational companies are still awaiting further indication of the way high-tech companies will be treated. They are also awaiting more comprehensive, clear and liberal intellectual property legislation to guarantee future investment in biotechnology.¹⁹¹

Among the transnationals mentioned above, only two distinguish themselves in having made further investments. The first company is Monsanto. It has been participating in the market by selling the herbicide "Round-up". Although Monsanto has dismantled its biotechnological research centre in Brazil due to a lack of appropriate intellectual property protection,¹⁹² it has raised its investment in Brazil. The construction of a business developing biological sweetening is under way.¹⁹³ This project involves investment of US\$ 3-4 million. The business was planned to be ready by the end of 1992. It will produce 100 tonnes a year. Monsanto's main focus has been on the soft drink sector because Brazil is the third largest world producer. Brazil's population is also the third largest consumer of soft drinks.¹⁹⁴

The second company is Rhone-Poulenc which has Brazil as the third largest consumer of its products.¹⁹⁵ In biotechnology, Rhone-Poulenc set up a research centre in Brazil in 1975. This centre has as its main task the selection and identification of genetic materials of wild national flora.¹⁹⁶ Another project undertaken has been in the biomass field. The project aims to utilise the sugar cane bagasse for purposes such as cellulose, and extracting lignin and other molecules from it.¹⁹⁷ The research investment has been around US\$ 1 million a year since 1990. Total investment will be around US\$ 80 million.

In relation to the inflow of foreign companies, especially transnationals, an

¹⁹¹ See BioPlan, *op. cit.* 122 at p. 136.

¹⁹² *Id.*

¹⁹³ *Id.* p. 135.

¹⁹⁴ *Id.*

¹⁹⁵ Rhone-Poulenc does business in Brazil by using the trademark Rhodia.

¹⁹⁶ Other stages of research are not undertaken in Brazil but in Vitry (France). It is believed that one of the main reasons is the lack of property rights in biotechnology in Brazil.

¹⁹⁷ *Id.* p. 136.

important area that awaits intellectual property protection is the plant variety field.

As was seen in paragraph (b), (c) and (f) of art. 9, the Code does not expressly prohibit the patentability of new plant varieties. However, the Patent Office has not granted any patents for the development of new varieties. The argument used by the Patent Office has been the fact that the Code did not foresee the patentability of plant varieties when it was enacted. Therefore, the Code does not apply to this subject.

According to a decision pronounced by the INPI's attorney (n. 028/80),¹⁹⁸ the protection of plant varieties is not included in the patent law. This decision was based on four grounds. Firstly, the patent law omits the subject. Secondly, Brazil is not a member of the UPOV Convention. Thirdly, the former legislation, Decree law n. 7903/45, regulated the subject by transferring protection of plant varieties to a special law.¹⁹⁹ Fourthly, the argument that patent protection is available only to inventions that have industrial rather than agricultural application was raised.

Accordingly, following the attorney's decision n. 028/80, the Patent Office has applied broadly the provisions of the Code to plant varieties. The decision holds that plant varieties do not fulfil the patentability requirements of the Code on intellectual property, especially the novelty, description and industrial applicability criteria.

Plant varieties do not receive any other kind of legal protection in Brazil. Nevertheless, a bill in Parliament examined the idea of extending legal protection to plant varieties. Also, a Brazilian delegation has been participating in the UPOV meetings and Diplomatic Conferences.²⁰⁰

The fact that plant varieties have been legally neglected in Brazil can affect research of new varieties and production by foreign companies in Brazil. It has been said that foreign companies have been more interested in selecting and identifying the genetic

¹⁹⁸ Decision pronounced by the attorneys Jose Eduardo Campos Vieira and Jorge Machado in 29th April 1980. Decision n. 028/80 requested by the Patent Office Examining Board. Patent application by Del Mont Corporation involving variety of pineapple.

¹⁹⁹ See Decree-law 7903 of 27th August 1945 at art. 219.

²⁰⁰ Activities of the UPOV, *op. cit.* 156 at p. 121.

material of plants and their ecological conditions, than involving themselves in any variety development. As seen in the Rhone-Poulenc case²⁰¹ this is due to the lack of protection.

In relation to plant varieties, especially seeds, despite the attractiveness of the agriculture market,²⁰² foreign companies will not introduce their developed variety and propagating material into the market if the risk of illegal reproduction by independent breeders persists.

Foreign companies participating in the seed market are mainly those involved with chemicals and pharmaceuticals. Often they were the ones that suffered losses in Brazil due to the illegal reproduction of pharmaceutical products. Therefore, they are aware that the same might happen to plant varieties. In this case, their strategy seems to be "wait and see" if legal recognition of intellectual property is introduced.

For domestic companies, the unprotected plant variety field also inhibits investment, as we have seen in the case of rice. Furthermore, breeders lose a powerful instrument to finance their research since the commercial exploitation of protected varieties would bring royalties. Without royalties, domestic companies will probably not invest a large part of their sale profits in research.

In the case of public research companies, the inability to charge royalties or fees for newly developed varieties can mean that they will be more and more dependent on public funding. This can create uncertainty in research since the funding will be dependent on political pressure and on the state of the government budget.

²⁰¹ See BioPlan, *op. cit.* 122 at p. 154.

²⁰² The Brazilian population is estimated to be 144 million. The Brazilian government is suffering heavy pressure from other countries concerning the inefficient use of land for agriculture. Biotechnology can help to achieve it.

3.5.3 Well Known Trademarks, Foreign Trademarks and the Allowance of Misappropriation by Third parties:

Foreign companies recognised as being internationally well known, have been having difficulties in obtaining and maintaining trademark protection in Brazil. Their trademarks have been frequently misappropriated and used by local traders with the express consent of public authorities.

The difficulties in protecting well-known trademarks commenced with the enactment of the property Code in 1971.²⁰³ Before that, the protection of such trademarks was firmly accepted. Accordingly, the Paris Convention was applied correctly, especially art. 6bis, art. 8 and art. 10bis. Also, the courts not only applied the words of the Paris Convention but they extended protection to internationally well-known trademarks even though they did not have businesses established in Brazil.²⁰⁴ Another point is that the previous intellectual property law admitted and protected those trademarks used but not registered. Also, it recognised rights arising from prior use.²⁰⁵

²⁰³ See Law n. 5.772/71.

²⁰⁴ The Case *Daum* decided in 1963 is regarded as a landmark in Brazilian jurisprudence on well-known trademarks. Its importance lies in the fact that it was decided by the Supreme Court. Also, the case was an expression of a liberal understanding of the recognition of foreign marks with an international reputation.

Daum was, at that time, a famous manufacture of crystal, glasses, porcelain and mirrors for more than 60 years. Its mark *Daum* was registered in France and other countries including South American ones. When seeking registration in the Brazilian Patent Office (former D.N.P.I.) *Daum e Cia.*'s request was not granted. It was alleged that registration had already been given to a Brazilian company in the same production line.

Not feeling satisfied with this decision, *Daum e Cia.* appealed to the Civil Court of the state of Guanabara and later to the Supreme Court. At the Supreme Court, the judges admitted the notoriety of the mark and stated "It is not possible to deny the notoriety of the name of the company [*Daum*] especially due to advertisements in Brazil through the magazines "Maison Francaise" and "Life". Those are magazines of large circulation...[which can show] the international and national notoriety of the mark.

Despite understanding that notoriety is local, that is, regional, the objective of the Paris Convention was to protect industries that possess [good reputation] and tradition beyond one country's frontiers". *Cristallerie de Daum v. Carnevale e Cia. Ltd et al.* Supreme Federal Court decision of 26th April 1963 in civil appeal n. 9,615.

²⁰⁵ See Siemsen, Peter Dirk, "Patent and Trademark Infringements in Brazil" [1984] 15 IIC at p. 447.

3.5.3.1 The First to File System in Brazil and Its Effects on Owners of Trademarks:

With the property Code in 1971, the strict concept of the first-to-file system was reintroduced thereby damaging those who own and use, but do not register, their trademarks. This is the situation of foreign companies which are famous internationally for their goods having good quality, and social status, but which do not have their marks and signs registered in Brazil.

As a result, foreign companies relying on their trademarks' fame as a sign of quality, when coming to Brazil to sell their goods or manufacture them, are normally surprised to discover the appropriation of their trademarks by local third parties. The surprise comes from the fact that local traders have applied to register and have obtained registration for the same mark in relation to the similar goods as the owner of the famous mark. Based on art. 59 of the property Code²⁰⁶ the "misappropriation" takes place legally, and the registration is guaranteed by the INPI.

The first-to-file system in Brazil is very harmful to those who use their mark, establish goodwill but do not bother to register it. In this situation, anyone who is quicker to seek registration can appropriate somebody's mark and its reputation. No protection is given to the first users. Accordingly, the first-to-file system is unfair since it is applied without due consideration for those who use a mark. The trademark's loss is justified on the the negligence of the user who ought to have registered it. In addition to that, this system can result in confusion for consumers when choosing goods. They will not know, and will probably be deceived by, the quality and origin of goods bearing a well-known trademark.

²⁰⁶ Art. 59: "The ownership of a mark and its exclusive use shall be guaranteed throughout the national territory to anyone who obtains registration thereof, in accordance with this code, to distinguish his goods or services from other identical similar goods or services belonging to the class corresponding to his activities."

The system existent in Brazil is known as the "radicalism" side of the registration system formerly in operation in France. It applies the same system strictly without any exception. The purpose of the Brazilian fist-to-file system is not to enable consumers to distinguish their goods or services as a result of different qualities and characteristics. Nor is it to establish a connection between the goods and the proprietor thereby preserving the reputation of the trademark's proprietor. This fact can make one wonder who the beneficiaries of the system actually are. Regarding the targets set by the government during the enactment of the Code and the misappropriation of internationally well-known trademarks, one can say that the system works in favour of national traders and to the detriment of foreign trademark owners.

According to recent evidences, local traders have been copying not only the trademarks and trade names of international companies but also their symbols and outlets.²⁰⁷ Other evidence that the system works in favour of local traders has been the fact that some local companies have registered famous trademarks so as to prevent foreign companies marketing their products in Brazil. Therefore, it creates a "market reserve" for domestic enterprises.²⁰⁸

Other countries regulated by the "constitutive system", such as Argentina and Mexico, apply the law in a more flexible manner. They except well-known marks from the registration requirement, as required under the Paris Convention.

In France,²⁰⁹ if a mark is notorious despite not being registered, the rights will be

²⁰⁷ The company Itaipava, owner of a petrol station network, in Sao Paulo, has registered the trade name 7- Eleven. The local company has opened a shop in Sao Paulo with the same name and structure as the American company 7- Eleven. See "So Falta Botar o Tapa-olhos", *Exame* (Brazilian Business Magazine), 10th June 1992 at p. 96.

²⁰⁸ The activity of registering another trademark in order to prevent foreign competition seems to have been adopted by the company Nicecream. The company specialises in the frozen yogurt sector. The company already has fifteen registered marks in the INPI including the expression 'frozen yogurt' and the trademark 'Zack's' which is one of the most known in the United States. *Id.* p. 97.

²⁰⁹ The registration principle was first implemented by French law in 1857. Traditionally, its main characteristic was the possibility to have absolute rights on trademarks by use or by registration. Both instruments were guarantees against trademark infringement: illegal reproduction of registered trademarks and unfair competition rules.

However, the French system has changed through the years through the progressive abandonment of the purpose of trademark. It has led a formal system where the interests of the registrar was greater than that the trademark owner's one.

In 1964, a new trademark law was adopted. Its main point was the abandonment of the first use principle. Acquiring protection will only be allowed if the trademark is registered. See Beier, Friedrich-Karl, "Basic Features of Anglo-American, French and German Trademark Law" [1975] 6 ICC at pp. 294-298. Also see Plassouraud, Y., "Selection and Protection of Marks", [1989] 29 *Industrial Property* at pp. 70-78.

protected by French law. In Argentina, the development of its law and case-law has been so positive that the mere fact someone has registered another user's mark is regarded as infringement. The user of the trademark does not need to prove the existence of goodwill. The proof that the person knew about the third party's trademark is sufficient. This rule does not apply only to well-known trademarks.²¹⁰

In Brazil, such a stage is still to be reached by the trademark protection system. Any trademark notorious or not, must be registered if it is to have legal protection.

According to art. 67, a trademark regarded as well-known in Brazil, must be registered as such through a special request to the INPI:

"A mark considered well-known in Brazil that is registered in accordance with the conditions and purposes of this Code shall be given special protection in all classes and be kept on special register so as to prevent the registration of another mark reproducing or imitating in whole or in part, where confusion may arise as to the origin of the goods or services or where the reputation of the well-known mark is damaged.

Sole subsection- The unlawful use of a mark reproducing or imitating a well-known mark registered in Brazil shall constitute an aggravation of the offence defined under the relevant law."

However, to be registered as well-known, trademark must go through a process of notoriety examination. The judgement of notoriety is done by a "Commission of experts" in the INPI. The Commission analyses whether the trademark is widely known by the public in Brazil.

The Intellectual Property Code defines neither "well-known" nor the extent of public knowledge required in order to give a trademark special registration. In 1974 the INPI issued the government directive n. 008 to regulate the subject.²¹¹ Later, the INPI issued the Normative Act n.07/002 of 5th November 1980 to complement regulations on the

²¹⁰ See Zorraquin, Aracama E., "Recent Developments in Industrial Property in Argentina" [1990] 30 *Industrial Property* at pp. 42-46.

²¹¹ See Government Directive n. 008/74 issued by the Brazilian Patent Office (INPI).

subject.

The government directive n. 008/74 established that the "Commission" must take four points into consideration, before granting special registration to trademarks: (1) the mark must make consumers of all classes identify and distinguish the mark immediately among different ones; (2) the mark must be known in all states of Brazil by their inhabitants independently of their social classes; (3) the mark must be attractive in such a way that, being used in different goods, it will connect the mark to the origin of the goods; (4) the mark bears a high concept of quality.

Accordingly, it seems that the law requires that a trademark becomes exceptionally well-known in order to obtain protection in all classes.²¹² It is understandable that the goods bearing the trademark should be marketed in Brazil for a period of time sufficient to make the mark acquire business goodwill. Also, the owner should carry out a massive advertising programme to promote the mark to a higher level than normal public knowledge. The trademark must have a high public profile such that the existence of a particular product is immediately connected with that trademark. In addition, there is the requisite of previous registration in normal proceedings.²¹³

3.5.3.2 The Notoriety Requirement for Well-Known Trademarks. Territorial or International ?:

Brazilian law requires that the notoriety of a trademark should be closely connected to the reputation acquired *territorially*. The result is an unfair trading situation for foreign companies owning trademarks notorious worldwide. It makes trademark protection in Brazil inaccessible to them. They will have to make the mark notorious to the public

²¹² See Siemsen, *op. cit.* 205 at p. 448.

²¹³ This requisite is identifiable by Brazilian practitioners in the area of intellectual property. *Id.*

and to the authorities in Brazil, in the way discussed below. Moreover, by imposing a formal procedure to obtain the authority's recognition of the mark, the law permits the devaluation of all efforts achieved by foreign trademark owners at an international level.

Art. *6bis* of the Paris Convention is also applied and interpreted narrowly by the INPI. Accordingly, the INPI has stressed the territorial requirement making the wording and the spirit of art. *6bis* a dead letter in Brazil.

According to art. *6bis*, the signatories of the Paris Convention should undertake the necessary provisions to prevent the domestic reproduction and the imitation of a trademark regarded as well-known.

Nevertheless, the fact that the Paris Convention does not define the requirements of notoriety which make a trademark well-known permits strict interpretation and application. Consequently, countries do not apply the provision properly. This results in the transgression of the property rights of foreign trademark owners.

According to Ladas,²¹⁴ the expression "well-known" is meant to be applied to a trademark that has been used in the country where the owner seeks protection. Also, the trademark must be known to the public in general. Using a trademark means the commercialisation of a product bearing the mark.

The above interpretation can be connected to the approach that holds that trademark's reputation or goodwill shall only be established when any form of business activity by the owner exists in the country where he seeks protection. To obtain good reputation and a certain good bearing, a trademark must be physically available to the public. That is, the public in general, must have tried the goods available in the market. If a particular good or service is known only by advertising or by general knowledge, reputation and goodwill cannot be established.²¹⁵

²¹⁴ Ladas, Stephen P., "International Protection of Well Known Trademarks" [1951] 41 Trademark Reporter at pp. 661-662.

²¹⁵ Goodwill is well defined by Lord MacNaghten: "It is the benefit and advantage of good name, reputation and connection of a business. It is the attractive force which brings in custom. It is the one thing that distinguishes an old established business from a new business at its first start." See *Inland Revenue v. Muller e Co's Margarine Limited*. [1901] AC 217.

This approach has been followed by national authorities throughout the world. In Brazil, the approach rests on the policy that holds it is necessary to curtail the power of foreign companies in favour of national development. The INPI prevents the granting of protection to well-known trademarks since special protection gives proprietary protection to the owner of the trademark in all classes of registration. The concession of such rights would give extra powers to already powerful foreign companies. This may be the reason why the territorial principle is stressed by the authorities in the INPI.

In the case of England, the approach taken by some judges, such as Lord Diplock, is that,²¹⁶

"Goodwill as the subject of proprietary rights is incapable of subsisting by itself. It has no independent existence apart from the business to which it is attached. It is local in character and divisible. If the business is carried on in several countries a separate goodwill attaches to it in each"

This is based on a conception of territorial goodwill built up in the last century when goods and their marks were closely related to the local establishment where they were sold.

The old concept that goodwill is territorial and that a trademark will only be well-known if the public in a particular place can buy the goods bearing the mark is not the correct one, taking into consideration the commercial reality of today.

Since 1950, the world economy has entered a new phase of organisation, commercial relations and prosperity. A number of companies began participating in the international market not only by exporting goods but also by opening and transferring new production to those countries. The participation of companies called "transnationals" in different markets had consequences for the flow of technologies, information and in the interaction of markets. The flow of foreign direct investment to countries where market

²¹⁶ *Star Industrial company Ltd. v. Yap Kuree Kor.* [1976] FSR 256. See also Cookson, Barbara E., "The Significance of Goodwill" [1991] 7 EIPR at p. 18.

conditions were right is regarded as important. The strategy of companies in this respect helped the world to become a smaller place.

The philosophy of market conquest by goods and competition forced companies to increase production, productivity and to improve the quality of their goods. In this regard, a number of companies have won this fierce competition by producing cheaper and higher quality goods. In addition, they have obtained a high international reputation, their goods being synonymous with quality, good taste and social success.

This new era has created the belief that human beings need to have not only their basic necessities but also dreams fulfilled by material goods. This has helped the development of a consumerist society where the more one spends the happier one will supposedly become. Also, this has changed the relationship between the product and its mark. Nowadays, marks connect goods to their origin, give consumers a clearer market choice, and often act as an indication of social status for the buyer. Marks with international reputation are especially subject to this new trademark function.

Moreover, one has to take into consideration the improvement of the means of communication and transport. The distance between two countries far apart has significantly been reduced. The development of efficient transport systems has allowed people to travel more overseas. Therefore, cultural interaction has been fostered by the exposure of people to different cultures, habits and trademarks. Furthermore, the improvement of communications, whereby news goes around the world in few hours, has turned the media and advertising into efficient instruments for companies to promote their goods internationally.

In the face of this reality, a new concept of goodwill and well-known trademarks has been developed, especially by the courts in various countries. The new concept is based on the understanding that the goodwill of a trademark can exist internationally. A trademark will acquire international goodwill when the goods bearing the mark are used in some countries and the owner makes the public associate the goods sold with the

trademark through massive advertising. Once it is internationally recognised, a trademark is protected automatically. Trademarks can be protected by the rules of well-known trademarks as well. The protection given also extends to those territories where services and goods bearing the mark are not provided or sold.

As already stated, the new concept of trademark protection has been developed by the courts in common law and civil law countries. The new concept has provided concrete support to foreign owners of trademarks in guaranteeing protection. In some countries, case law has already been favourably laid down by the judges. In others, the new concept has not reached the stage of being fully accepted by judges. Decisions can swing one way or the other depending on the judge.

3.5.3.2.1 The English Court's Dual Understanding on Trademark Notoriety:

In England, judges have clearly differed in their understanding of the subject. There has been a "hard line" school and a less demanding territorial requirement view. The latter approach has been to favour protection for internationally well-known trademarks despite the lack of trade activities or services rendered in Britain. The three important cases that highlight the liberal approach are: (1) *Sheraton Corporation of America v. Sheraton Motels Ltd.*²¹⁷ In this case, the American corporation sought an interlocutory injunction to stop the defendant using and advertising the word "Sheraton" in the United Kingdom in connection with hotels. It was alleged by the plaintiff that the defendant's use was misleading. Therefore the American corporation argued that it was exposed to commercial risks and suffering damage. The American plaintiff alleged that although it had not carried on any business in this country, it had established a business reputation through advertising and booking services, and through its London office and other travel

²¹⁷ *Sheraton Corporation of America v. Sheraton Motels Ltd.* [1964] RPC 202.

agencies for its chain of hotels throughout the world.

The court recognised the international reputation of the American plaintiff, and its goodwill and reputation in the UK through advertising. It therefore granted the injunction and expressed itself in the words of J. Buckley:

"It seems to me that when the matter comes to trial the position may well be that the plaintiff company may be able to say that they have got a reputation and a goodwill which would be exposed to risk resulting from the confusion between the plaintiffs and the defendants notwithstanding that they are carrying business in different parts of the world; and that, moreover, the plaintiff company are entitled to retain the possibility of exploiting their own goodwill in this country by opening hotels here, and that that possibility ought not to be diluted by anything done by the defendant company meanwhile..."

(2) *Baskin-Robbins Ice Cream Co. v. Gutman*.²¹⁸ This case is related to the request of the interlocutory injunction by the plaintiff, the owner of the chain Baskin-Robbins to restrain the defendants from using and advertising in their ice cream shop a trade style "32 flavours" displayed within a circular framework formed of red, white and blue horizontal stripes. The plaintiff alleged that the style used by the defendant was similar to the one used in its shop outlets.

The importance of this case lies on the expressed disagreement of Mr. Justice Graham with the view that goodwill and reputation are local and perish when business is abandoned in one country, even though business still subsists in other countries:

"The existence and extent of reputation in my judgement is essentially a question of fact. Similarly the existence and extent of the goodwill acquired by virtue of a trader's business and reputation seems to me equality to be one of fact. This being so, I do not see how one can properly lay down artificial limits as to the geographical areas over which reputation and goodwill can or cannot extend, nor state rules as to what a trader must or must not do to prove the existence of such reputation and goodwill. Being questions of fact the court must be guided, and guided only by what the proved facts establish..."

²¹⁸ *Baskin-Robbins Ice Cream Co. and Another v. Gutman and Another*. [1976] FSR 545.

(3) *Maxim's limited v. Dye*,²¹⁹ This case was important in the sense that it characterises the international reputation of the plaintiff's trade name.

Maxim's is a well-known restaurant in Paris with a high international reputation which extends to England. However, no restaurant had been set up in England. The defendant taking advantage of the plaintiff's lack of a business in England opened a restaurant in Norwich with the same name: "Maxim's". The French restaurant's owner sought to restrain the defendant from operating the restaurant under that name. The reasons raised were that the defendant's business was calculated to cause loss and damage to the prestigious restaurant. The court recognised the international prestige of the company, granted the injunction and stated:²²⁰

"The true position is... as I stated in the Baskin-Robbins case...

Some business are, however, to a greater or lesser extent truly international in character and the reputation and goodwill attaching to them cannot in fact help being international also. Some national boundaries such as, for example, those between member states of the EEC are in this respect becoming ill-defined and uncertain as modern travel and community rules, make the world grow smaller... I believe myself that the true legal position is best expressed by the general proposition, which seems to me to be derived from the general line of past authority that that existence and extent of the plaintiff's reputation and goodwill in every case is one of the fact however it may be proved and whatever it is based on."

It must be observed, however, that what was involved in the case was an interlocutory injunction, in the granting or refusal of which different criteria as applied them is finally disposing of a case.²²¹

The second line of judges are the "orthodox" or "hard" liners. As already mentioned, the hard liners believe that to characterise goodwill, a company needs some form of business in the territory where it seeks protection.²²²

²¹⁹ *Maxim's limited v. Dye*. [1977] 3 FSP 364 noted in Hoffman, T. J. and Brownston, S. E., "Protection of Trademark Rights Acquired by International Reputation Without Use or Registration" [1981] 71 TMR at p. 1.

²²⁰ *Id.* p. 368.

²²¹ See *American Cyanamid v. Ethicon* [1975] AC 396.

²²² *Star industrial case, op. cit.* 212. For a more detail study of the school of thought see *Bernadin et Campagne v.*

This school of thought is regarded to be strong in the courts, especially due to the long history of the idea that goodwill is territorial.²²³ The "hard liners" eventually triumphed with the *Budweiser Case*.²²⁴ This case is related to the commercialisation of the beer "Budweiser" in the United Kingdom. The problem was that both the American plaintiff and the Czech defendant were brewing and selling their beers under the name "Budweiser". The plaintiff was a brewer and had sold beer in the United States for more than a century. The plaintiff's beer had a great reputation in the American market. The defendant was a brewer in Ceske Budjeovice, a town in the former Czechoslovakia which was known by the name Budweis.

The plaintiff had sold a significant quantity of beer in the United Kingdom for the military personnel and to those British employees of the American military and diplomatic establishments in the United Kingdom. The defendants, on the contrary, had started successfully exporting their Budweiser beer to the United Kingdom to the general public since 1973.

The plaintiff requested an injunction to prevent the defendants from selling or dealing in any beer by the name Budweiser. It was alleged that the defendant's sale in the United Kingdom was causing public confusion.

The court recognised the great reputation of the plaintiff in the United States and that it was known to a substantial number of people in England. However, it was understood that the plaintiff marketing was limited and confined to a special place and people. Consequently, the plaintiff did not succeed in proving the existence of any business activity in the United Kingdom nor the existence of goodwill. Since there was no goodwill, the plaintiff could not argue that they had suffered damages. Moreover, the court

Pavillon Properties limited. [1967] RPC 581 noted at Hoffman, *op. cit.* 219 at p. 7. Also see *The Athlete's Foot Marketing Associates Inc. v. Cobra Sports limited e Another*. [1980] RPC 343. See also Mostert, Frederick, "Is Goodwill Territorial or International?" [1989] 12 EIPR at p. 441.

²²³ However, the owner of a well-known trademark can oppose registration, even though it has no goodwill in the United Kingdom. See *In The Matter of Gaines Animal Foods Ltd.'s Application to Register a Trade Mark* [1951] 68 RPC 178.

²²⁴ *Anheuser-Busch Inc. v. Brudejovicky Budwar NI* [1984] FSR 413.

held that international reputation of Budweiser, and the fact that it had established a substantial reputation among the British population through travel contact and spillover advertising, could not create a business goodwill in the United Kingdom since goodwill is regarded as local and it requires some form of business in the United Kingdom.

3.5.3.2.2 The Irish Court's Approach:

In Ireland, the Court's view was established in the case *C & A Modes v. C & A (Waterford Ltd.)*.²²⁵ The importance of Irish decisions has been the commitment of judges to adopt a realistic approach when dealing with the protection of internationally famous trademarks. Accordingly, in the *C & A Case*, judges granted an injunction to the British plaintiff to restrain the defendant from using the C & A trademark despite the fact that the plaintiff did not carry out any business in the Republic of Ireland. The judges, firstly, recognised C & A as a well established business in clothing with more than 60 stores spread throughout the United Kingdom. They acknowledged that C & A was very well-known mark in the Republic. This was due to television, and advertising in newspapers in circulation in the Irish territory such as the Sunday Times, the Observer and Daily Express. Added to that, the judges noted that the great influx of people from the Republic to England or Northern Ireland exposed customers from the Republic to the plaintiff's goods bearing the mark. Therefore, it was concluded that C & A had acquired a reputation in Ireland. Justice Henchy stated that,²²⁶

"Goodwill does not necessarily stop at a frontier. Whether in a particular area a plaintiff has a goodwill which is liable to be damaged by the unlawful competition resulting from passing off is a question of fact and of degree. What has to be established for the success of a plaintiff's claim in an action such as this is

²²⁵ *C & A Modes v. C & A (Waterford) Ltd.* [1978] FSR 126 cited at Mostert, *op. cit.* 222 at p. 444.

²²⁶ *Id.* p. 218 noted at Mostert, *Id.* 444.

that by his business activities- be they by direct selling within the state or otherwise- he has generated within the state a property right in a goodwill which will be violated by the passing off."

Justice Henchy also held that the defendant's action was to take advantage of the firmly established reputation of the plaintiff. His deceptive conduct could create confusion between consumers. The liberal approach has been a predominant school of thought in Ireland.²²⁷

3.5.3.2.3 The Indian Liberal position:

In India, the liberal approach is also predominant thereby protecting famous trademarks that have not been used in India. This fact can be regarded as a surprise if one takes into consideration the strong protectionist and nationalist attitudes of the Indian government towards intellectual property law and foreign investment.

The liberal approach in India is based on two decisions involving pharmaceutical trademarks: *the Ocusert* and the *Naprosyn cases*.²²⁸ In both cases, the opponents to trademark registration demonstrated that their international reputation extended to India. In the *Ocusert case*, the opponent showed that the trademark Ocusert was already in use in a product for the treatment of Glaucoma. It demonstrated that despite the lack of use or registration in India, the trademark had established a reputation in the medical and pharmaceutical area throughout the world.²²⁹ The defendant demonstrated good reputation in the Indian market by using the existing advertisement in scientific, ophthalmic and medical publications. The Registrar recognised the international reputation of Alza's trademark and refused registration of the Ocusert trademark.

²²⁷ Mostert, *op. cit.* 222 at p. 444.

²²⁸ *Alza Corp. v. the Chemical Industrial and Pharmaceutical laboratories Ltd.* Decision of the Trademark Registrar of 31st. May 1977 reported at 68 TMR 85 (1978). *Syntex Corp. The Chemical Industrial and Pharmaceutical laboratories Ltd.* Decision of the Trademark Registrar of 10th February 1978 reported at 68 TMR (1978) at p. 991.

²²⁹ See Hoffman, *op. cit.* 219 at p. 18.

Another point regarded by the Registrar was the prevention of consumer confusion. Being a well-known mark for medicine users, doctors and nurses, they could get confused by the existence of two similar trademarks for the same product. The protection of well-known marks under the public interest allegation was also confirmed in the *Naprosyn case*.²³⁰

"Medicines and pharmaceuticals which are meant for alleviation of human suffering are undoubtedly commodities which have universal importance and it will be hardly in the public interest to allow a mark as this, confusingly similar to a mark as that of the opponents to be registered by the applicants, whether or not the applicants were aware of the opponent's mark and which the former proposed to use on the date of application."

Those two cases decided by the Registrar have served as a basic argument for the protection of well-known trademarks in India.²³¹

3.5.3.2.4 The Argentinean Courts:

Regarding countries where the civil law system is in operation, Argentina is an example of one that has been concerned to give protection to internationally well-known marks. The courts have especially had a positive impact on the guarantee of property rights in trademarks. They have been concerned with the increasing amount of trademark piracy in Argentina. Therefore, they have decided to attack this illegal activity firmly. This involved punishing any behaviour considered unfair or immoral, or that damages commercial activities.²³² In this regard, the courts have not only concentrated their efforts

²³⁰ Statement cited in Hoffman, *Id.* p. 19. In Taiwan, the protection of the trademark Puma despite non-use or registration was guaranteed on the basis that the purpose of the law in Taiwan was to prevent consumers from getting confused not to protect the trademark owner. Cited in Hoffman, *Id.* p. 32.

²³¹ In the *7 O'clock case*, the Court granted an injunction to Gillette U.K. to prevent the defendant from using the mark '7 o'clock' in relation to toothbrushes. The Court refuted the argument that it is necessary for any form of business activity to constitute goodwill in a country. *Kamal Trading Company e Others v. Gillette U.K. Ltd.* High Court of Jurisdiction at Bombay in 25th Sept. 1987 noted in Mostert, *op. cit.* 222 at p. 443.

²³² See Zorraquin, *op. cit.* 210 at p. 43.

on the protection of internationally well-known trademarks but also on foreign marks that are not in use or registered in Argentina.

In recent cases, the courts have revalidated several foreign trademarks following misappropriation and unlawful use made by locals. It has been held that it is not necessary for that a mark must be in use in Argentina for a foreign owner to oppose, to invalidate or to bring injunction proceedings. The use and the registration of marks in foreign territories are regarded as sufficient requisites for the granting of invalidation actions and injunctions restraining use.²³³ This was the Court's approach in the case *Dulces y Conservas Helios s.a. v. Antonio Campana*²³⁴ where the court invalidated the registration of an Argentine owner due to prior use and registration of the mark overseas. Also, in the *C & A Case*,²³⁵ the Federal Court invalidated a trademark application for the use of the C & A trademark and granted an injunction to prevent the defendant's use of C & A as the trade name, as a style of the business as well as a trademark bearing on the products commercialised by them due to existing foreign owner's use. It must be observed that invalidation was granted despite the fact that the mark had never been used before in Argentina.

The battle against piracy and the recognition of trademark protection for unregistered marks or users in Argentina can be regarded as an advance. Also, it can be considered as an example to those countries that strictly apply the "attributive system", neglecting entirely the protection of users, especially of foreign marks and international well-known marks. As was said in the *El Valle Case*:²³⁶

"Now one of the purposes of the law on trademarks is the protection of proper trade practices... Those who demand respect for the right to goodwill generated

²³³ *Id.*

²³⁴ Decision upheld by the Federal Chamber of Buenos Aires room III on 10th September 1988 cited at Zorraquin, *Id.*

²³⁵ *Carlos Horses Abitboul v. C & A Nederland*. Decision of the Federal Chamber of Buenos Aires in February 1988 cited at Zorraquin *Id.* p. 44.

²³⁶ *El Valle Deluco s.r.l. v. Eugenio O. Reboloa et al.* Room II of the Federal Chamber of Buenos Aires in 21st. October 1988 as cited at Zorraquin. *Id.*

by legitimate use of a trademark, and in many cases through "*de facto*" use of this means of product identification. For while it is true that the law has adopted the so-called "attributive system", it is equally true that it cannot be applied as a strictly formal rule depriving unregistered marks for the protection that derives from the general principles of law, whether by way of protection for the goodwill in question or perhaps to restrain practices contrary to good faith."

3.5.3.2.5 Mexico and the Liberal Approach:

The Mexican courts have also applied the "liberal" approach to the protection of internationally well-known trademarks. The main argument accepted by the courts in favour of protecting such trademarks despite the lack of registration and use in Mexico, has been the prevention of unfair competition and market confusion. In the *Gucci II case*,²³⁷ the Court of Appeals upheld opposition to the registration of the mark 'Gucci' by a local trader unrelated to the proprietor of the internationally well-known mark Gucci. The Court stated that although Mexican law is governed by the "attributive system", the protection of unregistered trademarks is guaranteed by the Mexican Trademark System.²³⁸ It would be unfair and abusive to see a local trader using an unauthorised internationally well-known trademark. The court stated additionally that, in order to protect consumers interests, internationally well-known marks will be protected even though they are not used in Mexico. But, advertising in other countries should reach the Mexican territory in order to guarantee protection to them.²³⁹

²³⁷ *Gucci de Mexico s.a. v. Director General of the /Bureau of Inventions and Marks R. A.* 1269/84, Third Court of Appeals for administrative matters in the first circuit, 19th March 1985 cited at Ortiz, Horacio Rangel, "Protection of Well-known Marks in Mexico". 18 TMR at p. 212.

²³⁸ See Ortiz, *Id.* p. 213.

²³⁹ *Id.* p. 214.

3.5.3.3 The Deceptive Function of the Brazilian courts and Its Impact on the Inflow of Direct Foreign Investment. The Land Rover Case:

The protection of trademarks independently of the pursuance of any kind of business, or any registration in a market, but by virtue of advertising, and knowledge of international trademarks amongst the public, has a positive effect on the property rights of foreign owners. It fulfils the needs of consumers and trademark owners required by the new market reality of the twentieth century. It can be regarded as a reward for the years that a foreign company has spent in R & D, developing market tradition, maintaining quality of goods and implementing effective marketing strategies to build up goodwill. Also, the protection of rights guarantees foreign owners of trademarks a legal defence against misappropriators. An example is the combating of the dilution of those internationally well-known marks. The prevention of dilution can take two forms: first, by guaranteeing property rights to internationally well-known marks, the law prohibits others from using the mark for other goods. Therefore, it prevents the confusion of origin between the bad quality goods of the misappropriator, and the ones bearing the well-known mark. Secondly, it prevents misappropriators and unlawful copiers making available cheaply to all social classes goods bearing the famous trademark, when this is not desired. This practice is harmful to high quality and expensive trademarks which rely on the social status attached to the mark.

In addition, the concept mentioned above can prevent countries adopting a different interpretation of well-known marks, according to their economic and political interests. The "liberal" approach can end with the artificial, weak and confusing borders of definition between "famous", "internationally famous", "notorious marks" and "well-known marks".²⁴⁰ Thus, the important point is the general protection of foreign marks

²⁴⁰ Different definitions are set by countries, legislation and experts with respect to property rights. Generally, famous trademarks are recognised by their high quality and the long tradition that is associated with the goods. Normally, knowledge by a small part of the population or social class suffices protection. In the case of well-known marks they are under-

worldwide and the consequent applicability of the spirit of art. *bis* of the Paris Convention. The fact that a trademark is known by the majority of the population of a country, or by one social class is regarded as irrelevant. The new concept diminishes the role of national legislation in favour of a generalised role of trademarks where the objectives are to prevent public confusion in the global market and protect owner's rights.

The difficulties in protecting internationally well-known marks in Brazil and the impossibility of protecting foreign trademarks when they are not registered in the INPI and used in the market has prejudiced the rights of foreign companies.

Foreign companies have found it impossible to secure their proprietary rights in trademarks in the INPI. This situation has led them to resort to the courts to reverse the INPI's decision. They seek a more flexible interpretation of the trademark system more like that in Argentina and Mexico.

The courts in Brazil have been very deceptive in the sense that, unlike those in other countries, they have applied the "attributive system" strictly and have acted contrarily to the basic roles of the trademark system which are to connect the product to its origin, to enable consumers a clear choice in the market, and to protect the proprietary rights of trademark owners.²⁴¹ Their tendency has been to rule on the protection of foreign and well-known trademarks according to the INPI understanding.

A number of decisions have been pronounced by the Federal Court of Appeals and the Supreme Federal Court in the last ten years. They prevent the trademark system from conforming with the development and the new reality of trade.

In the *Cartier Case*,²⁴² the Federal Court of Appeal did not recognise the trademark

stood as publicly known by a large part of the country's population. They are also known and connected to goods by their market performance and quality. The definitions are weak since internationally well-known marks are usually famous due to their distinctive qualities and traditions. However, in some countries, the two terms are understood differently. See Schucker, Gerhard, "Protection of Famous Trademarks Against Dilution in Germany" [1980] 11 IIC at pp. 167-175. See also Ladas, *op. cit.* 214 at pp. 661-662. See Kur, Annette, "Well Known Marks, Highly Renowed Marks Having a High Reputation- What's It All About?" [1992] 23 IIC at p. 218.

²⁴¹ Although some courts of first instance have been recognising protection rights to foreign owners of trademarks, the Federal Court of Appeal has been reversing those decisions.

²⁴² *Cartier s.a. et al v. Silvids Vestuarios ltd. et al.* Fifth Chamber of the Federal Court of Appeals. Decision of the 13th November 1985 in civil appeal n. 98,531.

'Cartier' as a well-known mark. Although the Court granted protection to 'Cartier' on the grounds that the name was a patronymic of the firm's founder, it did not accept the notoriety arguments of the company.²⁴³ The French company "Cartier Societe Anonyme" showed that its marks 'Cartier' and 'Cartier Paris' have been in use worldwide on perfumes, garments and other goods for more than 150 years. They showed that the mark was well-known in Brazil, especially by high class customers. The Court held that the mark was not known by the population at large and therefore it could not be protected under art. 67 of the Property Code.

In the *Fila*²⁴⁴ and *Paximat Cases*,²⁴⁵ the Federal court of Appeal confirmed the general view that an internationally well-known trademark, in order to be protected, needs to be well-known by the population and registered with the INPI as well. In the *Fila Case*, the Court held that although the 'Fila' mark was internationally well-known it was not sufficiently known by the Brazilian population, according to Normative Act n. 07/002. Moreover, the fact that the mark 'Fila' was not registered in Brazil justified the appropriation of the mark by a local trader. Therefore, appeal for nullity of the registration of the local trader's trademark was rejected.²⁴⁶ In the *Paximat Case*, the foreign owner of the internationally well-known trademark requested the nullity and revocation of registration of the mark 'Paximat' appropriated by a local trader. The decision handed down was similar to the *Fila Case*. The Court refused to recognise the notoriety of the mark despite the mark's tradition and quality worldwide. Also, the court did not grant revocation of the local trader's trademark on the grounds that the foreign owner did not register his

²⁴³ According to Brazilian law, protection will be granted to trademark bearing the patronymic of the founder. Art. 67(xii) states that no one can register the name or well-known pseudonym without the express authorisation of the owner or his successors. Also, art. 8 of the Paris Convention applies, in this case, since countries of the Union will protect trade names without the obligation of registration.

²⁴⁴ *Maglificio Biellese Fratelli s.p.a. v. Tavares Carvalho Roupas s.a. et al.* Fourth Chamber of the Federal Court of Appeal. Decision of the 5th November 1986 in civil appeal 96,381.

²⁴⁵ *Carl Braum Werk GmbH v. INPI et al.* Fifth Chamber of the Federal Court of Appeals. Decision of 28th September 1987 in civil appeal n. 112,546.

²⁴⁶ In the *Fila Case*, the Judge Padua Ribeiro understood that the owner who does not register his trademark should pay a penalty even though the misappropriation is done against the rules of competition. The owner pays for his negligence by losing it: "We do not believe in coincidence, the defendant probably copied the logotipo of the plaintiff; However, considering the existing constitutive system [first-to-file] in Brazil, this is the price paid by imprudent and careless traders: the loss of the mark in favour of those who register it." See the *Fila Case*, *op. cit.* 244 at p. 72.

trademark in Brazil. Therefore, the Court did not grant the property in the trademark in Brazil to the foreign owner.

The importance of these cases highlight the conservative idea of territoriality. There is a clear abandonment of the trademark function in favour of the promotion of a rigid system. Furthermore, unfair competition is encouraged. As judge Geraldo Sobral stated in the Paximat Case,

"One cannot leave without condemning repairing the immoral behaviour of the defendant [local trader] that being the representative of the plaintiff in Brazil requested registration of a mark, knowing it belonged to his commercial representative [the plaintiff]. However, considering the adoption of the "attributive system" in Brazil this is the price to be paid by the imprudent and careless in favour of those who register...
It is impossible to have characterised the crime of unfair competition or abuse [since registration was not requested by the foreign owner]..."

The result of that has been the Brazilian legal system's violation of art. *10bis* of the Paris Convention.

In the cases mentioned above, besides not considering internationally famous marks well-known in Brazil due to the general public knowledge requirement, the courts did not take into account that those marks were already in use in other countries.

The strict attitude of the authorities in the INPI in granting protection to foreign trademarks, also confirmed by the courts, has resulted in a solid legal support for those who want to misappropriate trademarks of foreign owners. Therefore, it has created a fertile climate for counterfeiting activities.

Local traders, taking opportunity from the economic liberalisation and noticing that the Brazilian market is attractive to foreign companies due to its size, infrastructure and market opportunities, started to register foreign trademarks, and closely resembling ones, that were not being used in Brazil. Their objective has been to profit on the international goodwill and high quality reputation established by foreign companies. Also, it has been

to misappropriate foreign trademarks so as to sell them to their original owners at exorbitant prices.

Eager to produce and to sell in the Brazilian market, one can suggest that foreign companies have been prevented from investing directly in Brazil by the local traders who have registered their marks in the INPI. The marketing of their goods bearing the marks registered by the locals would constitute an infringement according to art. 59 of the Intellectual Property Code. The local traders would be entitled to damages.²⁴⁷ The prohibition on marketing products bearing the mark includes the importation of goods.

This situation can be regarded as very harmful if one takes into consideration that internationally famous trademark owners are prevented from profiting from their quality, goodwill and trademark tradition built up throughout the decades.

The suggestion that the lack of trademark protection in Brazil hinders the entry of foreign investment is supported on a recent case relating to the protection of foreign trademarks: the *Land Rover Case*. The *Land Rover Case* involves the attempt to register the trademarks 'Land Rover' and 'Range Rover' by Rover, the British car manufacturing group in October 1990. The application for registration was refused by the INPI on the grounds that the above trademarks had already been registered. The local trader who registered had been Mr. Hilton Pereira, a small businessman, the owner of a car dealer company in Rio de Janeiro: the Hobby Representacoes de Veiculo ltd.

Noticing that the Rover Group had not used its trademarks in Brazil for more than two years, Mr. Pereira filed a petition requesting the cancellation of the Rover's Group mark on 12th July 1990.²⁴⁸ Alongside the application for cancellation, he applied also for the registration of the same marks. The INPI cancelled the trademarks and granted registration to Mr. Pereira for the same mark. The INPI's decision was based on the provision of art. 94 which states that a trademark registration expires when its use is discontinued

²⁴⁷ See Decree law n. 7903 of 27th August 1945 at art. 175, 178 and 179.

²⁴⁸ *Hilton Pereira v. The Rover Company Ltd.* Administrative process involving the cancellation of the Land Rover trademark. INPI/ 1991.

for more than two consecutive years²⁴⁹

By obtaining the right to use the Land Rover trademark, Mr. Pereira aimed to foster the importation and selling of Land Rover cars in Brazil. He opened up a dealership of imported cars called 'Land Rover' do Brasil.

The registration of the trademark by Mr. Pereira caused serious concern to the Rover group. Since the introduction of the new economic policy to liberalise the economy, the Rover group has been interested in importing its vehicles in Brazil under its own name. Also, it had planned to set up a manufacturing company in Brazil to produce 'Land Rover' cars.

The importance of this manufacturing venture to the Rover Group, especially the market opportunities in Brazil and in the MERCOSUR,²⁵⁰ led them to contest the INPI's decision to grant registration of the mark to Mr. Pereira. Rover's contention was based on the fact that its non-use of the marks 'Land Rover' and 'Range Rover' in Brazil was due to *force majeure* events. The main supervening situation that prevented them from participating in the Brazilian market had been the import restrictions adopted by the government since 1945.

As we have already seen, as a way to promote industrialisation, the Brazilian government adopted a policy of import-substitution. Among the instruments to promote this policy, import restriction had been the instrument most used. Accordingly, importation of several products, including those that were similarly produced in the Brazilian market, were barred or made difficult by the Brazilian government.

In the case of Rover, the possibility to import their vehicles had been strongly prohibited by the government. The fact that Volkswagen, General Motors, Ford and Fiat had

²⁴⁹ See Art. 94- "Except in the case of *force majeure*, a registration shall, *ex officio* or on the petition of any interested party, be held forfeited where its use has not been started in Brazil within two years from the date of the registration grant or has been discontinued for more than two successive years.

Sole subsection- It shall be for the owner of the registration, notified in accordance with section 95, to prove use or *force majeure* justifying non-use."

²⁵⁰ MERCOSUR stands for South American Southern Cone Common Market.

been manufacturing cars in the market made any car importation an almost impossible business. Therefore, the government's economic policy was alleged to be a supervening circumstance outside the control of the owner which made it impossible for the company to use the trademark according to art. 59 of the Intellectual Property Code.

The Rover Group also alleged that despite the fact that the mark was not in use in Brazil, it was used worldwide and it had acquired an international reputation. Moreover, the mark was well-known by trade dealers, car experts, and the Brazilian population through advertising in specialised magazines such as *Quatro Rodas*. Therefore, the mark being internationally well-known and also well-known in Brazil, it should have been protected by the law according to art. 67 of Intellectual Property Code and art. 6bis of the Paris Convention.

In previous decisions such as the *Paco Rabanne Case*,²⁵¹ the INPI argued that import restrictions imposed by the government could not constitute *force majeure* events. It declared that despite the Law of Similarities hindering importation, foreign companies had other means of using their marks in Brazil. It suggested that, in the case of Paco Rabanne, the company could have licensed the trademark to local traders, exported its goods to the free port in Manaus²⁵² or sold its products in Brazilian airports in order to avert the government restriction on imports and the non-use of the mark.²⁵³

In the *Land Rover Case*, the INPI has not pronounced its decision yet. However, the INPI's president has unofficially stated he is favourably disposed to the Rover Group. This statement made to the press led Mr. Pereira to charge the INPI's president in court with prejudging the case.²⁵⁴ Thus, the INPI has been barred from pronouncing its final

²⁵¹ *Paco Rabanne v. Concorde Industrias de roupas ltd. e INPI*. Fifth Chamber of the Federal Court of Appeals. Decision of 6th March 1985 in civil appeal n. 90, 573.

²⁵² Manaus is the capital of the Amazon region and also a free port for imported goods. However, the free port is strictly subject to import quotas.

²⁵³ Despite the INPI's understanding, the Federal Court averted the decision on forfeiture of the mark Paco Rabanne. It considered the import restriction as a *force majeure* event and it protected the owner of Paco Rabanne from the understanding that he was obliged to license the mark to avert the non-use requirement. Therefore, the Court guaranteed the property rights of the trademark to the French owner.

²⁵⁴ See "Rover Faces Set Back in Brazilian Battle Over Trademarks", *Financial Times*, 27th August 1991 at p. 5.

decision until the Court of Appeal in Rio de Janeiro rules about the behaviour of the INPI's President.

At the moment, there is believed to be, in Court, more than three disputes involving the Rover Group and Mr. Pereira. They range from an injunction to restrain Mr. Pereira from using the mark to the interruption of the INPI decision. The latest news on the case has been that the court has granted an injunction to restrain Mr. Pereira from using the mark 'Land Rover' until a final decision is given about the non-use of the 'Rover' trademark. The fact that the case is now under consideration by the slow and bureaucratic Appeal courts, could lead to the case being decided in the Federal Appeal Court, and could mean that the decision in the case might take up to 10 years.²⁵⁵

The immediate consequence of this unfavourable situation in protecting the property rights of foreign trademark owners has been the inhibition of foreign direct investment in Brazil.²⁵⁶

Thus, the Rover Group has few alternatives but to fight for its trademarks or invest in a manufacturing plant somewhere else in the Southern Cone of South America. One of the alternatives would be to invest in the Brazilian market using a different trademark and trade name. However, the costs of creating another mark such as market research to check future market acceptance, and finding an attractive mark, would be high and time consuming.²⁵⁷ Also, one has to consider the costs involved in changing the name on all

²⁵⁵ There is no specialised Court in intellectual property in Brazil. All cases related to the authorities' or administrative decisions, or when one of the part in a case in the Court is the state are judged by the Federal Court.

The number of cases in Brazil is believed to have increased considerably since democracy returned to Brazil in 1984. People being conscious of their rights tend to go to seek legal protection in Court. This has overloaded the judicial system. According to the new President of the Sao Paulo Court, Mr. Ody Porto, in the state of Sao Paulo alone there are 3,5 million cases to be decided with only 1,500 judges. See interview in the Brazilian magazine Istoe. See "O ultimo Recurso", Istoe/Senhor, 29th January 1992 at p. 5.

²⁵⁶ Burger King's investment in Brazil is also at stake. The company, specialises in fast-food business, has found partners to be in charge of the distributing Burger King's franchise in Brazil: the businessmen Arnaldo Diniz from the Pao de Acucar supermarket chain and the former twice World Champion of Formula One car racing Emerson Fittipaldi. However, Burger King's trade name has been registered by a shop of imported goods in Rio de Janeiro.

The American company, unable to recover its trade name, has appealed to the Brazilian courts to nullify the local trader's registration. It has already been five years of legal action in Court. The end seems unforeseeable. See "So Falta Botar o Tapa-Olhos", Exame (Brazilian Business Magazine), 10th June 1992 at p. 96.

²⁵⁷ General Motors participate in the British car market with the trade name Vauxhall. However, the trade name Vauxhall was not created by GM. Vauxhall was the name of a very famous London based engineering company established in 1857. Already in 1903, Vauxhall Iron Works Company Limited produced two car models, although its especiality was the make of marine machines. In 1907, due to its success and the future prospects of the car industry, Vauxhall created a new

spare parts manufactured by the Rover group. Using the traditional trademark to manufacture Rover cars would be simpler since it involves using a mark already in use in the parent plant. In addition, the fact that the Rover Group plans, in the first instance, to import Rover vehicles into Brazil, and in the second, to assemble parts in Brazil would mean that Rover will have to import vehicles or spare parts already bearing the new trademark. Therefore the company would have to bear higher costs than expected, when initiating its operation in Brazil.

Another point to be considered is the profitability of spare parts and vehicles accessories manufactured bearing the trade name of the vehicle manufactured. In the case of Vauxhall, the sale of replacements parts reached £230.8 million in 1990 and £230.9 million in 1991 in the United Kingdom.²⁵⁸

The reputation of a vehicle manufacturer is not only established by the quality of the vehicle. Nowadays, it is very important to combine vehicle sales with services rendered, and spare parts offered, by authorised vehicle dealers. The long term relationship between them and their customers has been shown to be positive for vehicle companies. Therefore, companies have been setting up direct selling networks with customers offering high quality spare parts. In this field, spare parts and accessories play increasing roles in the success of companies in building up a reputation in the market.²⁵⁹

company specialised in the production of cars: The Vauxhall Motors Limited in Luton.

In 1925, Vauxhall Motors was absorbed by the American car manufacturer named General Motors. The Cadet Model of 1930 was a first practical successful result of the Vauxhall/GM merger in 1925. The Model was produced so that Vauxhall could compete in the fast growing market for family cars.

Another very important GM investment in the Vauxhall subsidiary, was done in 1980. GM firmly supported the construction project of the Astra range. Also, GM created the General Motors Service Parts Operation (called Vauxhall parts) to organise the promising spare parts market for the Bedford commercial vehicles and Vauxhall cars. Furthermore, it was during the 1980's that the GM European subsidiary, called Opel, tied production links with the British subsidiary Vauxhall.

Accordingly, the Vauxhall name was not a GM creation but a market strategy to fully exploit the good reputation of the British company. See *The Griffin Story: A Pictorial History of Vauxhall Cars and Bedford Commercial Vehicles*, 1990 (Published by the Public Affairs Department, Vauxhall Motors Limited, Luton).

²⁵⁸ See *Vauxhall Review Motors Limited*, 1991 (Published by the Public Affairs Depto., Vauxhall Motors Ltd., Luton) at p. 21 hereafter called Vauxhall Review.

²⁵⁹ Car manufacturers have been investing in aftersales activities. In the case of Vauxhall company, it has opened a Vauxhall Technical Centre so that professional training for its dealer staff can take place and the quality of the company's spare parts can be constantly monitored. Vauxhall has also invested £20 million in an automated efficient warehouse facility. It is expected to increase the efficiency of distribution of the £230 million turnover spare parts business. See *Id.* See also "For GM, the Word From Europe Is 'Parts'", *International Business Week*, 18th January 1993 at p. 19.

At the moment, vehicle manufacturers in Brazil are those famous producers worldwide such as Fiat, Ford, General Motors, Mercedes-Benz and Volkswagen. It would be very important for the Rover group to compete in the market with its already international famous mark. The fact that Rover's intentions are not only primarily to assemble vehicle in Brazil so as to export to other regions, but also to market its vehicles in Brazil, forces the group to keep its famous trademarks. Another point is the fact that Brazilian consumers seem to value trademarks that are well-known internationally. For them, it is important to say that their goods were produced by or bear the trademark of internationally famous companies. It would be unreasonable to change a trademark that had already been advertised in Brazil through foreign magazines and national ones as well. Once a mark has acquired international goodwill it is easier to use than to create a new unknown one.

Another alternative would be for Rover to negotiate with Mr. Pereira by offering money in exchange for the mark. Also, the Rover Group could reach an agreement with him giving discounts on the importation and distribution of vehicles to be sold in the market by Mr. Pereira. Another strategy would be the Rover Group to grant Mr. Pereira the monopoly to distribute Rover vehicles in the state of Rio de Janeiro or, at least, to be the main distributor.

The practices mentioned above have recently been adopted by other foreign companies that have seen their trademarks registered by local traders. They have also been adopted by national enterprises that have been having difficulties protecting their marks in the Southern Cone of South America. For example, General Motors has paid a large amount of money (not revealed) to a local trader not to use its mark. The negotiations happened after a local person registered the brand 'lumina' which had been used by General Motors on its cars in the United States. Also, General Motors have been having problems with the trademark 'Isuzo'.²⁶⁰ The mark belonged to a Japanese company

²⁶⁰ See "Pirataria de Marcas Pode Afetar MERCOSUL", Folha de Sao Paulo (Brazil) 12th August 1991 at p. 5. See also, "Proteger as Marcas Para o MERCOSUL", Gazeta Mercantil (Brazil), 6th June 1992 at p. 6 and "Exportadores Denun-

associated with General Motors. However, the president of GM has affirmed that he is committed not to paying any money to have the brand 'Isuzo' back. Recently, the 'Audi' trademark was registered by Mr. Nagib Audi. The local businessman seems to have offered the Audi mark back to the German car manufacturer in exchange for US\$ 10 million. The case is still to be decided by the INPI and by the Audi group as well.²⁶¹

In relation to agreements between local traders and foreign companies, one can cite the example of the national shoe manufacturer 'Ortope'. The company is known for its high quality of shoes. It has exported to several countries including the United States. The company is Brazilian and it has recently found that its mark was being used in Argentina, Paraguay and Uruguay.²⁶² Having difficulty in exporting to those markets due to trademark problems, after one year of negotiations, the company reached an agreement with the Argentinean owner of the trademark. It has granted the company the status of main 'Ortope' distributor of its shoes in Argentina thereby avoiding court's proceedings.²⁶³ To the Paraguayan local trader, 'Ortope' offered discounts on the commercialisation of shoes. In Uruguay, 'Ortope' has been having difficulties getting its mark back since the Uruguayan local trader is asking for an amount of money larger than the market value of shoes in Uruguay.²⁶⁴

The above strategies can be costly and time consuming. In the *Rover Case*, it is clear that Mr. Pereira's chances are slim. Therefore, his strategy of pressing on with court proceedings is an attempt to compel the Rover Group to negotiate with him. Then, Mr. Pereira will have the opportunity to request advantageous terms including the payment of a large amount of money. Negotiations could take one year or more, depending on the bargaining power of each party. Thus, the planned manufacturing venture by Rover that

ciam Pirataria de Marcas nos Países do Cone Sul", *Gazeta Mercantil* (Brazil), 9th August 1992 at p. 8.

²⁶¹ See "Direito da Fonte", *O Estado de Sao Paulo* (Brazilian newspaper), 12th September 1991 at p. 13.

²⁶² See "Marca Pirata Dificulta as Exportacoes", *O Estado de Sao Paulo* (Brazilian newspaper), 8th September 1991 at p. 9.

²⁶³ *Id.*

²⁶⁴ See "Ortope Pede Garantias Para Marca", *Gazeta Mercantil* (Brazilian Financing Newspaper), 23rd. August 1991 at p. 8.

could lead to the production of 18,000 vehicles a year from 1993²⁶⁵ has already been set back by the trademark problem. This could lead Rover to cancel the venture plan. By settling its production activities in Argentina, Uruguay or Paraguay, the Rover Group could have less obstacles to investment than in Brazil and profit through South America.

²⁶⁵ See "Land Rover Wins Case in Brazil on Trademarks", *Financial Times*, 15th November 1991 at p. 7.

CHAPTER FOUR

CHAPTER IV

THE BRAZILIAN GOVERNMENT STRATEGY IN PROMOTING GREATER INFLOW OF FOREIGN INVESTMENT AND TO ATTRACT TECHNOLOGY. THE DRAFT BILL ON INTELLECTUAL PROPERTY IN PERSPECTIVE: WILL IT WORK?

As it has been shown, the present law on intellectual property (Law 5.772/71) is one of the main restrictive measures towards foreign technology and foreign direct investment. Its harmful effects have emerged and have become clearer following the adoption of a new economic policy by the present Brazilian Administration.

Based on the economic modernisation and international competitiveness of domestic Brazilian industries the present Administration has had the task of restructuring the Brazilian economy. This has meant not only identifying obstacles hindering economic development, but also dismantling these obstacles so that a new scenario of economic advancement can flourish.

A significant number of the solutions have been proposed to end the chaotic economic barriers and to foster the desired inflow of investment. These do not appear to have ignored the problems regarding the existing intellectual property law. On the contrary, being regarded as one of the pillars to economic and technological modernisation, intellectual property has received special attention. Thus, the government has proposed a series of changes in this area.

This chapter discusses the government's actions to promote direct foreign investment through changes in intellectual property law. Special consideration will be given to the draft bill which is, at the moment, being discussed in the Brazilian Parliament. In this connection, an important question will be dealt with: Will the draft bill foster direct foreign investment?

4.1 The New Brazilian Industrial Policy for the 1990's:

The policy of import-substitution pursued since 1945, which has created a series of technological and trade protectionist barriers, has had a very positive impact on the Brazilian economy. Nowadays, one can see a powerful and diversified industrial sector, with greater participation (more than 60%) in the export list of products. Also, one can see an increase in the country's GNP to around US\$ 414 billion¹ and the formation of some technological niches in fields such as biotechnology, aerospace (engineering electronics) and computer software.

However, the import-substitution policy has recently shown signs of exhaustion. The fact is that inflation has been rampant for more than 10 years and the economy's persistent stagnation has been blamed on the exhaustion of import-substitution policy. Thus, it has been seen to produce less benefits than costs to the economy as a whole.

In the field of high-technology, this situation has been most critical. Technological and trade barriers, including inadequate restrictive intellectual property and technology transfer laws, have discouraged and prevented technological inflow. Therefore, it has affected the necessary technological modernisation of domestic companies which would allow them to compete in the international market.

Since 1984, when the military dictatorship officially ended, and the civilian Administration failed to strength the economy and to remove the existing barriers to investment, questions have been raised as to the value of maintaining state interference in private affairs and the Brazilian trade and technological isolation.²

¹ In 1965, Brazilian GDP was US\$ 19,470 million. By 1991 the GDP had increased to US\$ 414,060 billion. *World Development Report. Development Indicators. Development and the Environment.* 1992 (Oxford University Press, Oxford).

² These two points are regarded as the main characteristics of the import-substitution policy, and were adopted during its second stage from 1973 to 1984.

Following the international tendency to phase out state interference in the market and to attract foreign direct investment, the present Brazilian administration has been persuading national companies, politicians and the population in general that economic liberalisation is synonymous with modernisation and economic development.

This has not only been done by showing the negative impact of the import-substitution policy. The present Administration has also elaborated a new economic policy based on liberal economic ideas. In addition, the Administration has laid down clear steps to be taken in order to implement this new policy. In this sense, the new Administration that took power in 1990 can be regarded as a strong proponent of economic change in Brazil.

The philosophy of the economic policy and the planned steps to be taken by the government have been set out in the Industrial and Foreign Trade Policy (PICE) issued by the government in 26th June 1990 and the Programme of Industrial Competitiveness (PCI) issued in February 1991.³ According to the PCI, the main aim of the modernisation policy is to dismantle the pillars of the importation-substitution strategy. Thus, the government has committed itself to decreasing state intervention in the economy and to opening up the Brazilian market to international and more aggressive competition.

In order to promote the deregulation of the economy and the desired modernisation, the government has drawn up a series of measures and steps that will be adopted during its five year Administration:⁴ (1) Privatisation of several state companies; (2) Lower import tariffs on capital goods and some manufactured goods; (3) Privatisation of the Brazilian ports so as to reduce importation and exportation costs; (4) Lower export tariffs; (5) Phasing out of price controls; (6) An increase in public investment in R & D, especially in areas where Brazilian companies are competitive such as biotechnology; (7) Liberalisation of the information technology sector, thereby ending the "market reserve"; (8)

³ *Programme of Industrial Competitiveness (Programa de Competitividade Industrial)* February 1991 (published by the Ministry of Economics, Brasilia, Brazil).

⁴ *Id.* pp. 11-18.

Creation of new liberal rules to regulate technology transfer contracts; (9) Elaboration of new legislation on intellectual property.

Some steps have already been taken with very positive results. This can be seen in the case of reductions on import tariff on textiles, textile producing machinery, vehicles and several other manufactured goods. The result of lower import tariffs and increasing import inflow has been the managerial and technological changes in companies operating in Brazil so that they can maintain their domestic competitiveness. Another step has involved the new legislation to privatise ports. Although the law was only approved on the 29th February 1993, benefits from the new port structure are expected. Costs on the import and export of goods will be substantially reduced. Furthermore, as another important example of change, the privatisation of public enterprises has already achieved some good results. USIMINAS (steel making company) has been reported as having obtained profits for the first time in five years.⁵ Also, the company has achieved its best export performance to date.⁶

However, the results of the changes in the Brazilian economic structure undertaken have been undermined by the persistently high inflation rate and the consequences of deep economic recession such as unemployment and a lack of investment.

In the light of this, as part of creating a secure environment for investment and development, the government has recently concentrated most of its efforts on eliminating the annual three digit inflation rate, and promoting the desired short-term economic recovery. In doing so, the government has adopted a more cautious and practical attitude towards market opening reforms. Further large import tariff reductions have been put on hold and the pace of privatisation of public enterprises has been slowed.

⁵ USIMINAS was privatised in December 1991. Usiminas net profit in the third quarter of 1992 has been calculated at around US\$ 88.4 million. Soares, Rinaldo Campos, "USIMINAS. Past, present and future". Presented at the "Second European Institutional Conference on Investments in Brazil" held at Savoy Hotel, London, 2nd. February 1993.

⁶ USIMINAS has exported 1.8 million metric tons of material to 27 countries. *Id.* at p. 14.

The government's strategy has been to change slowly the structure of the economy, according to the degree of economic and political momentum. By doing this, it is believed that the government will achieve the proposed reforms without deepening the economic depression. It will prevent large scale unemployment and temporarily maintain political support in Parliament.

Another factor that it is holding back further trade reforms has been the strong lobby and organisation of the nationalists. By alleging that the general rules governing privatisation are unclear, nationalists have been using the Brazilian courts to hold back the privatisation of public companies.⁷ Their actions have led the government to revise the privatisation programme so that rules covering the programme can be made transparent.⁸

Despite the suspension of the programme for revision, privatisation is to be continued due to the need for foreign investment and fresh foreign private capital. Privatisation is regarded as the main pillar of the new economic policy.

Nevertheless, the cautious attitude of the government does not appear to have had a significant effect on the necessary reforms of Brazil's intellectual property and technology transfer system.

Regarded as being essential to the pillars of quality improvement in goods, industrial efficiency and international trade integration, the government has maintained the momentum of the intellectual property reforms. Furthermore, the fact that further inflows of foreign investment and technology,⁹ and the renewal of a scientific technological agreement with the United States' government¹⁰ have been put on hold, due to inadequate laws on intellectual property, has pressured the government into pursuing its reform programme.

⁷ See "Brazilian State Sell-offs in Balance", *Financial Times*, 18th September 1991 at p. 6.

⁸ See "Brazil's Leader Begins Shake-up of Privatisation", *Financial Times*, 14th January 1993 at p. 5.

⁹ See "Toma-la-da-ca", *Istoe/Senhor* (Brazilian Current Magazine), 14th August 1991 at p. 28.

¹⁰ See "Colaboracao na Area Tecnologica Entusiasma Governo Brasileiro" (Technological Collaboration Enthusiasms the Brazilian Government), *Gazeta Mercantil* (Brazilian Newspaper), 4th December 1990 at p. 4.

4.2 Technology Transfer and Resolution n.22/91:

The most important action taken by the government to promote access to efficiency boosting technology for domestic companies has been the revocation of the Normative Act 15/75. In addition, the INPI has issued Resolution n. 22¹¹ setting out new rules to technology transfer contracts.

Moreover, a Normative Instruction n. 001/91¹² has also been issued by the INPI so that the provisions of Resolution n. 22/91 could be complemented and better understood.

As the normative acts and resolutions relating to technology transfer issued by the INPI are exclusively under the authority of the Executive power, it was possible for the required changes in technology transfer regulations to be introduced quickly.

In this sense, the new Administration, as part of its commitment to liberalising technology inflow, and as soon as it became politically feasible, created more liberal rules on the transfer of technology. The main change seen in the Resolution, which represents a new concept in dealing with technology transfer agreements, has been a significant elimination of state interference in such contracts.

Contrary to the Normative Act n. 15/75, where the parties had to comply with a series of obligations and conditions set by the INPI, Resolution n. 22/91 eliminates most conditions and delegates powers to negotiate and to leave the provisions of technology contracts to be settled by the parties. By leaving the parties involved to deal with the terms of the contract, it seems that the government has realised that the bureaucracy and state interference of former legislation was not appropriate to the new stage of economic development as laid down in the new policy. Nor was it appropriate to the new reality of international economics and trade competition. If domestic companies desire to be

¹¹ Resolution n. 022 was issued by the government through the INPI in 27th February 1991. No. D.O.U. n. 40 of 28th February 1991, at section 1 p. 3711.

¹² See INPI's Normative Instruction n. 001/91 of 2nd July 1991.

competitive in local and international markets, they need to acquire technical advancement at short notice. Therefore liberal rules must be provided.

Another important change has been to phase out clauses imposed by the government that discouraged the transfer of technology to Brazil, such as prohibitions on restrictions export on the licensee, and the prohibition of clauses restricting the use of unpatented and confidential technology, especially after contract expiration. Also, clauses that oblige the licensor to communicate detailed information about any improvement on the technology licensed, to the licensee.¹³ These clauses were among those supposed to prevent "technological international exploitation" by the foreign licensor.

The permission to include clauses that restrict the licensee rights on the technology licensed¹⁴ can denote the government recognition of the managerial and technological maturity of domestic companies to negotiate and enter into such contracts.

In relation to the clause of "confidential information" usually applicable to technology not covered by intellectual property protection, the new INPI's Resolution does not only erase the unconditional right to use secret technology by the licensee. It also recognises the importance of having clauses preventing exploitation, and excluding availability of some techniques related to the technology licensed.¹⁵ This can be seen as a sign of the new Administration's commitment to respecting and giving appropriate protection to intellectual property issues.

In this view, the new structure where the parties involved in the contract are responsible for their own contractual obligations seems to be a landmark in technology transfer in Brazil.

Nevertheless, it may be recognised that changes in technology transfer regulations

¹³ See art. 2.5.1 (e) Normative act n. 15/75.

¹⁴ See art. 2.5.1 and 2.5.2 of the Normative act 15/75.

¹⁵ Resolution n. 22/91 art. 7 states: "The contract to supply technology will set conditions to acquire know how and technology not regulated by the rights of intellectual property, deposited or given in Brazil.

Sole paragraph- The contract this paragraph deals with can contain clauses of confidential information and prohibition to use determined technology."

could have been introduced in a simpler way. Instead of issuing new rules, it would have been more efficient to have simply revoked Normative Act n. 15/75. The revocation of Normative Act n. 15/75 without the issue of any regulation on technology transfer would have implied the end of state intervention in such contracts, the removal of the obstacles created by the bureaucracy, and the transfer of decision making to the parties in the contract.

In Mexico, the strategy to end state intervention was simply to revoke the protectionist law on technology transfer enacted at the beginning of the 1970s.¹⁶ This has been regarded as having a positive effect in attracting foreign technology by those involved in technology transfer agreements.¹⁷ Moreover, it is interesting that after the years of harmful state intervention on such contracts, the Mexican Parliament decided to deregulate the matter. For the Mexicans, the importance of this liberal strategy in technology transfer has been the elimination of any trace of state interference.

In the Brazilian case, the existence of rules that regulate technology transfer are a harmful vestige of the state's presence. It also indicates the inability of the government to break with the history of political interventionism. There are three paragraphs in Resolution n. 22/91 that may suggest that the government hesitates in ending the regulation of technology transfer. The first one is art.9:

Art. 9 "In contracts of technology transfer, the licensor will supply to the licensee all data and technical information, as well as technical assistance to apply to the technology and update its object, so as to promote effective technology absorption."

Reading art. 4.5.1 of the Normative Act n. 15/75, one can notice that art. 9 of the Resolution n. 22/91 has similar provisions, but with less authoritarian language. However,

¹⁶ See Mexican Law on Intellectual Property. Art.2: "The following are hereby repealed: (ii) the law on the control and registration of the transfer of technology and use and working of patents and trademarks and regulations under it, published in the *Diario Oficial* on January 11, 1992 and January 9, 1990 respectively." See Mexican Law, *op. cit.* 1 in Chapter Three.

¹⁷ See Gonda, R. Villareal, "The New Mexican Law on Industrial Property" [1991] 30 *Industrial Property* at p. 444.

it seems that the interference bias persists since it is not left to the managerial ability of the licensee to take the necessary steps to ensure the complete transfer of the technology.

Domestic companies know that their commercial survival in the Brazilian and international market will depend largely on the technology licensed. Therefore, it is expected that they will take measures to ensure the full transfer and assimilation of techniques. This reality faced by domestic companies makes art. 9 unnecessary and useless.

The other paragraph is art. 17 of the Resolution:

Art. 17. "The INPI might follow the process of technology transfer."

Thus, the INPI might follow the negotiations, help the licensee to negotiate the provisions of the contract and even follow the process of transference and the licensee's absorption of the technology. This may denote that the INPI still has the means to interfere in technology contracts. However, a negative point is that the article is vague in the way it is worded. It does not determine situations where the INPI will watch closely technology transfer contracts. Nor does it give further power to the INPI to interfere in cases where technology assimilation is not done according to INPI's standards. Nevertheless, due to economic needs and the implementation of the new liberal economic policy, it is important to wait and see whether the INPI will in fact interfere. Similarly it will be important to note the extent of any INPI interference.

The third paragraph that can denote vestiges of state intervention is art. 1.1. (c) of the Normative Instruction n. 001/91:

Art. 1.1. "Contracts of technology transfer should contain:

(c) provisions that assure the licensee's ownership on the amelioration of the technology transferred and that guarantee the amelioration done might be transmitted to the licensee."

The imposition of the licensee's ownership on technological improvements may make foreign licensors hesitate about transferring techniques to domestic Brazilian companies. Since the technology licensed belongs to him, any improvement in the technique should belong to the licensor. Without the prime technique, the licensee would not be able to improve it.

This kind of provision should be decided by the parties in the negotiation process, but not by regulations. Moreover, this provision can have an adverse effect on the licensee's bargaining power since he could exchange this "improvement clause" for one regarded more important to him, such as a reduction in royalties or a longer period using the technology.

On the whole, the new regulation on technology transfer may be considered positive. The language used throughout is liberal and suggestive. While the predominant words of the Normative Act n.15/75 were "ought to", "should" or "have to", in the Resolution n. 22/91 these words are replaced by "may" or "might". Furthermore, by eliminating the endless list of obligations of the parties and ending the INPI's power to decide which technology should be transferred (according to the economic importance to the country) a significant step has been taken.

In this sense, the existence of the Regulation n. 22/91 can be understood as a procedural guideline for those who desire to acquire technology but do not have the expertise to do so.

It is believed that the impact of the Resolution n.22/91 and Normative Instruction n. 001/911 on foreign owners of technology is positive. Licensors and foreign investors will surely find it easier to transfer technology to domestic companies. The legal bureaucracy has been significantly reduced.

4.2.1 Related Regulation to Resolution n.22/91:

Nevertheless, there are some restrictive measures in other regulations related to technology transfer that need to be phased out in order to combine with the liberal provisions of the new resolutions and to create a positive environment for technology inflow.

The first restrictive point is in relation to the remuneration of technology licensees. Although Resolution n. 22/91 states that the parties will establish remuneration to be payable,¹⁸ the INPI has only been accepting royalty percentages according to the standard set by the Ministerial Ordinance n. 436/58.¹⁹

Ministerial Ordinance n. 436/58 sets out the maximum percentage a licensee can deduct, for tax purposes, for the use of licensed technology. The percentage found in this Ordinance has been used and considered by the INPI as the maximum royalty or fee for the payment of the technology.²⁰ For each agreement classified by Resolution n. 22/91 as a licensing or technology transfer agreement,²¹ a maximum percentage deductible is applicable. In the case of trademarks license agreements, the royalty permitted for remuneration is 1%. In the case of patent licenses, the percentages can vary from 1% to 5%, according to the nature and to the importance of the technology licensed.²² For technical and assistance agreements, the remuneration should be estimated according to the:²³ (a) number of technicians; (b) the daily expenses incurred in accordance with a general

¹⁸ Resolution n. 22/91. Art. 11: "The remuneration of the licensor of the technology can be established at a fixed price, as a percentage of the net sales price, as a profit participation, or as a set amount per unit manufactured according to contractual agreement, except for technical and scientific assistance agreement."

¹⁹ See Ministerial Ordinance n. 436 of 30th December 1958. Issued by the Ministry of Finance.

²⁰ See "Licensing and Technical License Agreements" [1992] Rel. 25 Doing Business in Brazil. Pinheiro Neto Advogados at p. 19- 5. Hereafter called Doing Business in Brazil.

²¹ Resolution n. 22/91. Art. 2 "For registration purposes, it regards:

I- Technology transfer contracts, the one classified by the INPI as:

- (a) Patent licensing agreements;
- (b) Trademark licensing agreements;
- (c) Technology supply agreements;
- (d) Technical and scientific assistance agreements;"

²² See Doing Business in Brazil, *op. cit.* 20 at pp. 19- 5 and 19- 8.

²³ See Normative Instruction n. 001/91 at art. 1.6.

standard applicable to those contracts; (c) the duration of time the technical assistance contract.

In this case, the type of restriction where the parties do not have the power to set the level of remuneration for their own contract looks odd compared with the freedom given to the parties by Resolution n. 22/91. However, it is believed that the INPI reviews this understanding on setting royalty rates in the light of the changes in technology transfer regulations.

Other existing regulations that preserve state interference in technology transfer contracts are those contained in the Intellectual Property Code. Firstly, despite the fact that Resolution n. 22/91 has eliminated all the restrictive clauses, art. 29 (2) of the Code establishes that the licensor will neither prohibit nor impose any restrictions on the licensee to commercialise or to export the product of the technology licensed.²⁴ Secondly, art. 30 sets out a series of cases where the registration of the licensing agreement will not have any effect, as far as royalties are concerned. These agreements can, however, be approved and recorded by the INPI: (a) when a patent is not granted in Brazil; (b) when the owner of the patent does not have the priority provided for in section 17 of the Code; (c) when a patent has expired, or it is in process of annulment or revocation.

Art. 29 (2) and art. 30 of the Code differ from Resolution 22/91. The revocation of Normative Act n. 15/75 has meant the end of the excessive prohibition clauses imposed by the state. It has meant the acceptance of the understanding that "restrictive clauses" such as prohibition on the exports of goods produced by the technology should be adopted by the parties, if necessary.²⁵ It should be conditioned to private business situations not hindered by government desire. Accordingly, "export restrictive clauses" will be determined by cases where, for example, the licensor has previously granted an exclusive license in another country.

²⁴ See Law 5.772/71. Art. 29 (2) and art. 90 (2).

²⁵ According to practitioners, licensees in Brazil have often agreed with the licensor export restriction clauses in a separate document. See Evans, Larry W., "Licensing Disincentives in Brazil" [1986] 21 *Les Nouvelles* at p. 182-183.

Furthermore, art. 30 can negatively affect the inflow of technology insofar as the INPI will not admit technological contracts for royalty purposes if the technology is not registered in Brazil. Thus, it is necessary that the technology is patented and fully operating in Brazil according to the Intellectual Property Code.

Thus, a great number of cutting edge technologies will probably not be available to domestic companies, if their licences do not comply with art. 30. Secondly, biotechnology, chemistry and pharmaceutical techniques do not seem to be accepted by the INPI for patent licensing agreements since, as we have seen, it has never permitted patents in those areas. These contracts can be legally covered by rules of "technology supply agreements". However, rules applied to such "supply contracts" have always been regarded as more restrictive than those applied to patent licensing contracts.²⁶

Other regulations that seem to conflict with the liberal approach taken by Resolution n. 22/91 are those relating to technology transfer agreements in the field of information technology.²⁷ Although a new law ending the "market reserve" in the informatics sector has been enacted, technology transfer rules have not been revoked.

Therefore, a contract on licensing technology software must be examined and approved by a joint commission in the INPI and in the Science Technology Office of the Presidency of the Republic (SCT).²⁸ In order to approve a licensing contract, both public agencies will check the absence of domestic technological capability. Also, the licensor will be obliged to supply complete documentation of the technology, including

²⁶ Normative Act n.25/75 and INPI's practice seem to have dealt more strictly and carefully with "technology supply agreements". Accordingly, under Normative Act n.25/75, a series of heavier conditions were set forth to be complied with by the parties such as the transference of the technology ownership to the licensee (due to the permission to the licensee to use the product after the agreement expires and the prohibition of confidential clauses). Moreover, INPI's practice has limited the length of such contracts to only 5 years. It has always been difficult to extend them.

In this perspective, practitioners have mentioned the existence of two distinct contracts: (1) licensing agreements when patented technology is involved; (2) technology sale agreements when technology supply contracts take place. See Evans, *Id.* and *Doing Business in Brazil*, *op. cit.* 20 at parag. 3- 4.

The fact that Resolution n. 22/91 is silent about the percentage of remuneration for those contracts and the length of them, can mean that the INPI will carry on pursuing existing practice. See *Doing Business in Brazil* Parag. 19-135.

²⁷ The regulations that apply to licensing contracts in information are the joint INPI Normative Act n. 53- SEI n. 13/80 of 12th February 1981, art. 30 and art. 31 of Law 7.646 of 18th December 1987 and art. 30 and art. 31 of Decree n. 96.036 of 21th May 1988.

²⁸ See Decree n. 96.036/88 at art. 30.

commented source codes, descriptive briefs, diagrams and all technical data required for the licensee to absorb the technology.²⁹

4.3 The Changing Rules on the Relationship Between Parent and Brazilian Subsidiary Company:

Due to the strong pressure from state interventionist politicians, the new Administration has been having difficulties in creating a totally free environment for foreign investment. Therefore, the existing restrictive rules on technology transfer can be looked upon as a consequence of this political pressure.

Nevertheless, the Administration seems to have been tackling obstacles efficiently in areas where foreign participation seems important. Moreover, it seems to have been providing sufficient incentives to foreign investors.

An attempt to improve the environment for investment has been the enactment of a new law on the remittance of royalties involving technology transfer contracts from subsidiary to parent companies.

Payments of royalties and fees, on the use of patents, trademarks and technology licensed, made by the Brazilian subsidiary to the parent company has been prohibited since the enactment of law 4.131 of 3rd. September 1962.³⁰

For a long time this has been strongly opposed by foreign investors. They do not see such agreements solely as obligations to update technologically their subsidiaries. They also view payment of royalties from the subsidiary as a way to generate capital gains so that new technology development can be carried out.

²⁹ See Law 7.646/87 at art. 31 sole paragraph.

³⁰ Prohibition to remuneration was also extended to cases where technology was licensed to Brazilian domestic company which the voting capital is controlled by the foreign licensor. See Law 4.131/62 at art. 14.

Law 8.383 of 39th December 1991 has recently modified this restriction to foreign investors and technology owners. According to Law 8.383/91, Brazilian subsidiaries can remit royalties obtained from the use of technology licensed by the parent plant.³¹ Furthermore, Brazilian subsidiaries can deduct, for tax purposes, royalties and fees related to "supply technology", trademarks and patent licensing contracts as well as expenses on technical assistance.³² However, this remittance situation will only be applicable to technology contracts signed after 31st December 1991. Also, such contracts will have to be registered with the Central Bank and approved by the INPI.

Law 8.383/91 can be regarded as a positive step towards improving the environment for foreign investment. It complements the new rules on technology transfer issued by the INPI. It reflects the belief that technology transfer contracts, as specified in art. 2 of Resolution n. 22/91, are considered as foreign investment. Therefore, foreign companies should be allowed to obtain some profit from the technology licensed, even though technology contracts involve subsidiary and plant parent companies.

4.4 The New Law on Informatics:

In the field of information technology, very liberal rules have recently been introduced. The most important one has been Law 8.248³³ which officially opened the informatics sector to foreign participation.

The main alterations introduced by this law have involved allowing foreign companies to manufacture informatics equipment, authorising the import of computers and software spare parts, and encouraging joint-ventures.

³¹ See Law 8.383/91 at art. 50 sole paragraph.

³² See Law 8.383/91 at art. 50.

³³ See Law 8.248 of 23rd. October 1991.

In relation to the production of equipment by foreign companies, Law 8.248/91 not only allows it, but has also created a series of tax incentives for those who transfer production to Brazil. The significant incentives are:³⁴ (a) a deduction of up to 50% on the income tax on expenses incurred in research and development; (b) tax exemption, such as the manufacture of goods tax (IPI) on informatics materials or output produced; (c) IPI tax exemption on manufactured goods when they are purchased by the Brazilian Scientific and Technological Council (CNPq); (d) cumulative existing tax incentives such as those granted to companies that produce in the Amazon region or in the northeast region of Brazil.

However, for foreign companies to qualify for these tax benefits, their production strategies must be approved by the SCT (Scientific and Technological Secretary). They will also have to invest 5% of the gross earnings, obtained from sales and services rendered in Brazil in research and development to be done in Brazil. Furthermore, they will have to invest at least 2% of their gross earning in official research public universities.³⁵

Another change introduced by the law that has benefited foreign investors has concerned joint-ventures. Law 8.248/91 allows foreign investors to own 49% of the voting shares and 100% of non-voting shares of domestic companies while allowing the companies to still be considered domestic companies.³⁶ The outcome of this is the preferential status that these companies will enjoy when bidding for public sector contracts.³⁷ Also, they can qualify for credits offered by government financed institutions.

Since the end of the "market reserve" in the field of information technology on 28th October 1992, a number of foreign companies have shown interest in entering into joint-venture agreements.³⁸ In fact, with the prospect of abolishing the protectionist law, the

³⁴ *Id.* at art. 3, art. 6, art. 7 and art. 8 and its sole paragraph.

³⁵ *Id.* at art. 11 and sole paragraph.

³⁶ Before, foreign companies could have only 30% of the voting capital to qualify as domestic companies. See art. 1 (1) in Law. 8.248/91.

³⁷ See "US Companies Joint the Great Computer Race", 28th November 1991 Latin American Regional Reports.

³⁸ *Id.*

gradual decline in import tariffs and the new rules on technology transfer, joint-ventures have been reported as taking place since mid-1991.³⁹ Thirteen foreign companies have already announced partnerships with domestic companies.⁴⁰ Among these agreements, are the joint-ventures between IBM and the domestic company SID, and between Digital Equipment Corporation and ELEBRA.⁴¹

The enactment of law 8.248/91 is a breakthrough in the area of high technology. This has meant a major victory for the new Administration towards modifying the structure of the informatics sector. Also, it is a victory against those groups and politicians with a paternalistic mentality that have dictated the Brazilian economic policy since 1945.

The fact that the new liberal structure in informatics is already showing good results can influence and push forward reforms in other key areas.

4.5 The Draft Bill on Intellectual Property: How Far the Improvements Go:

As part of the action to enhance domestic Brazilian companies' international competitiveness, as noted above, intellectual property has received special attention from the new Administration.

Government action has been to present a draft bill to the Brazilian Parliament proposing new rules on intellectual property.⁴²

This proposal can be regarded as the result of the general criticism that Law 5.772/71 could not be an instrument to provide the need foreign technology and investment. Accordingly, it is believed that the existing intellectual property law is not in

³⁹ See "Brazilian Becomes Computer Compatible", Financial Times, 20th October 1992 at p. 4.

⁴⁰ *Id.*

⁴¹ Joint-ventures are partially governed by Law 7.232/84 and Law 8.248/91. Accordingly, such agreements must be approved by the National Information and Automation Council (CONIN). One of the requisites for its approval is the guarantee that technology transfer will occur. See Art. 22 of law 7.232/84. See also "CONIN Aprova 'Joint-venture' na Informatica" (CONIN Approves Joint-ventures in the Informatics Field), Folha de Sao Paulo (Brazilian Newspaper), 11th July 1991 at p. 5.

⁴² Draft bill n. 8234/91 on 30th April 1991.

harmony with the modernisation policy pursued by the Administration, nor it is in harmony with the new international economic reality of market globalisation and competitiveness.

The draft bill presented only one year after the new Administration took office shows its commitment to ending quickly the existing restrictive laws on investment.

However, taking into consideration the urgent need of the Brazilian economy to acquire technology and direct investment so as to upgrade domestic competition and companies' competitiveness, and considering the fierce international competition for investment, the Administration's action to seek elaboration of new rules on intellectual property through the Parliament seems not to have been the most efficient option available. The fact that the draft on intellectual property is going to be analysed by the Parliament usually means that changes will take longer to be implemented. In the Parliament, there is a whole procedure which a draft bill has to go through before it is enacted. Briefly, the process involves the President presenting a bill to Parliament, the bill being analysed and then approved by a special Commission. Then, the draft is substituted by one approved by the Commission and sent to the Chamber of Deputies⁴³ for general and open discussion. Then, the substitute draft is discussed and approved by the Senators, in open discussion. By 27th May 1992, the draft bill was still awaiting agreement in the special Commission. Discussions seem endless.

Furthermore, nationalists and pro-state interventionists seem to have taken advantage of the existing parliamentary bureaucracy. They have frequently pressurised Parliament into proceeding slowly in approving the intellectual property draft. They have alleged that a serious issue like intellectual property cannot be discussed urgently. They have led sterile and exhausting discussions on the subject.⁴⁴

⁴³ Brazil's House of Representatives.

⁴⁴ See Tonelli, Pedro, "Patenteamento da Vida" (Patenting Life), *Correio Braziliense* (Brazilian Newspaper), 6th January 1992 at p. 7. Article written by the Deputy Pedro Tonelli from the Labour Party. He considers the concession of patent as a new form of foreign domination.

It would have been much more efficient if the new Administration had proposed only some changes, considered indispensable to raise the level of technology and investment inflow. Then, probably, a comprehensive change could have been proposed. Those changes would have involved placing pressure on the INPI to change its behaviour towards foreign patentees, and to recognise well-known trademarks as envisaged by art. 6bis of the Paris Convention. It could also have pressured the courts to modify their interpretation of intellectual property. The courts would then have been encouraged to apply more liberal interpretations in accordance with the government policy (as the former military governments did during the second import-substitution policy).

Nevertheless, since the new Administration rejected the import substitution policy and has launched a liberal economic policy, it placed great importance on the changes in the intellectual property law. In addition, as a fundamental reform, the Administration could profit politically by increasing parliamentary support for other proposed reforms.⁴⁵ Another explanation for this desire for a complete reform of the legislation can be found in the Brazilian legal system. The Roman civil legal system prevails in Brazil. In this system, written regulations are important in organising society according to ideal proposed conduct.⁴⁶ Regulations are viewed, in this instance, as ideal and moral guidelines that the population is obliged to follow. The conduct guidelines determine how far economic and social values must change, instead of law reform being determined by new economic or social realities. Therefore, the enactment of legislation is regarded as a duty when social or economic reforms are needed.

The draft bill sent to the Parliament has been modified and improved by the speaker in the special Commission.⁴⁷ It contains a series of amendments proposed by the Deputies in the Commission.

⁴⁵ Former President Collor's support was based around a very small party with insignificant representation in the Parliament. This forced him to enter into political agreements with other parties. After Collor's impeachment, the new President Mr. Franco adopted the same strategy in the Parliament so that the Parliament could approve needed reforms. See "Franco 'to Uphold' Foreign Accords", *Financial Times*, 31st. December 1992 at p. 3.

⁴⁶ See Rosenn, *op. cit.* 96 in Chapter Three at pp. 5-7.

⁴⁷ Draft bill n. 824 of 27th May 1992. Relator (Author): Deputy Ney Lopes.

4.5.1 General View:

The draft bill is divided into seven titles providing an outline of the draft on intellectual property: (1) Patents which include rules on the patentability of inventions, the request for patents, the validity of patents, the obligations and rights of the patentee. This section also applies to industrial design and utility models; (2) Trademarks which sets out the rules for the protection of marks; (3) Appellation of origin which sets out the rules on the protection of names, signs and expressions that designate the origin of a product; (4) Infringement and sanctions against infringement of intellectual property; (5) Trade secret rules that protect industrial and commercial information considered confidential; (6) Technology transfer and; (7) General dispositions that include transitional provisions and rules regarding administrative appeal.

The general outline of the draft is similar to the Mexican law on intellectual property enacted in 1990. This means that throughout the discussion of the draft, the Mexican law has been served as a model to the Brazilian Deputies.⁴⁸

The Mexican law on intellectual property has been applauded by the United States's government.⁴⁹ Accordingly, it has been regarded as a model piece of legislation for those countries that want to update their intellectual property law according to international standards.

The study and use of the Mexican law by the Brazilian Deputies lies in the fact that it is very well structured. It gives sufficient detail and special consideration to some topics regarded as important, such as appellation of origin, biotechnology and trade secrets. Also, administrative procedures that regulate appeals for reconsideration and general

⁴⁸ Discussion on "A Proposta do Governo Sobre uma Lei Sobre Propriedade Industrial" (The Government's Proposal on New Intellectual Property Law) held on 10th December 1991. Document n. 551/91 (Special Commission on Intellectual Property, Brazilian Parliament, Brasilia).

⁴⁹ See Anderson, M. Jean *et al*, "Intellectual Property Protection in the Americas: the Barriers are Being Removed" [1992] 4 *The Journal of Proprietary Rights* at p. 4-5.

rules of procedure are placed in a separate title. Therefore, it facilitates the search for and understanding of specific topics.

In addition to this, the law contains a series of instruments that can help foster technological and economic development. Among these instruments are the extension of patent grants to areas it was previously prohibited to patent; the increase of patent duration; and the reduction of administrative procedures. These are regarded as a breakthrough in protecting intellectual property in Latin America.

In general, the draft bill is very satisfactory. Firstly, it is a very well structured draft. It has been divided into several chapters and sections where subjects have been analysed in specific topics. An example of this has been Chapter II of Title I which deals with the patentability of inventions. This chapter has been systematically divided into Section I- Patentability requirements in relation to inventions, utility models and industrial designs; Section II- Patentability of inventions that were filed in another country; and Section III- Non-patentability of inventions, utility models and industrial designs. Thus, all sections are related to the main subject. This systematic structure facilitates searching for subjects within the draft. It has also meant that some topics have been dealt with in greater detail and with more technical precision.

Also, the redefinition of some concepts and the inclusion of others, not contemplated by Law 5.772/71, can be regarded as a positive point of the draft. This has been the case with the redefinition of the "working requirement" for the purpose of compulsory licensing, art. 50 of the draft which defines "the rights of the patentee" and Title V which sets out rules on trade secrets. In the case of art. 50, the draft contains a list of rights the licensee will have over his patent. Art. 51 provides a list of exceptions to the patentee's rights. These lists are regarded as important since they establish the extent of the patentee's rights. In the case of trade secrets, their definition and inclusion in the draft are novelties in Brazilian intellectual property law, although the intellectual property law 1945 regulated infringements of trade secrets and provided for penalties.

It is also very important to mention that provisions such as these relating to the expropriation of the patent by the state for reasons of "national security" have been phased out. In the draft bill, there are exceptional situations where the patentee will temporarily lose his monopoly over the patent. This is the case of national emergency or public calamity. When a state of national emergency is declared (art. 74), compulsory licensing will be granted for a short period of time and with adequate remuneration. This is a clear sign that there is less state intervention in relation to intellectual property and more respect for the patentee's rights.

Another improvement in the draft has been the simplification of some bureaucratic rules governing intellectual property. Primarily, art. 16 (1) of the draft has established that the documents to be presented to the INPI requesting priority rights need only be followed by a simple Portuguese translation. Under Law 5.772/71, documents requested have to be followed by an official translation. According to Brazilian practitioners,⁵⁰ this new rule will substantially reduce patent request costs. Furthermore, the draft maintains the possibility of the priority claimant producing the necessary documentation for the INPI, if not submitted with the initial application, up to 6 months later for patents and utility models (art. 16 (2) (a), and 3 months for industrial design (art. 16 Parag. 2 b). In the case of the Portuguese translation, the claimant will have up to 2 months after the initial application to present it to the INPI.

The second change in the bureaucratic process of patent examination has been the draft's omission of the opposition proceedings existent in art. 19 of law 5.772/71. It can be concluded that the opposition proceedings have been eliminated by the draft bill. The draft bill has followed a similar pattern to the Mexican intellectual property law. Accordingly, neither opposition proceedings nor third party's observations, after publication, are accepted. Brazilian practitioners believe that the elimination of opposition is intended to

⁵⁰ See Daniel, Denis Allan and Gosain, Rana, "Patents- What is in Store for Brazil?" [1991] October *Managing Intellectual Property* at pp. 36-37.

speed up patent proceedings.⁵¹

4.5.2 Substantive Changes Regarding the Protection of Intellectual property:

Nevertheless, the draft substitutive can be looked upon as liberal due to the changes it makes to the existing restrictive measures towards proprietary rights over technology. These measures are those which prevented foreign inventors from patenting in Brazil and prevented foreign companies from investing directly in the country. Among the main changes are the following:

4.5.2.1 Extension of Patent Grants:

The first change seen in the draft has been the extension of patent grants to technological areas not permitted by art. 9 of the Law 5.772/71. Art. 18 of the draft sets out inventions that are not patentable:

"Art. 18. The following shall not be patentable:

I- inventions whose purposes are contrary to the law, public safety, public health or evidently harmful to the environment and contrary to the sustainable development policy;

II- substances, material, mixtures, components or products of any kind, as well as the modification of their physical and chemical properties and the processes for obtaining or modifying them, which result from a transformation of the atomic nucleus;

III- essentially biological processes or natural processes for obtaining species and animal and plant varieties;

IV- species and animal and plant varieties obtained by processes dealt with by the previous point in accordance with international criteria;

⁵¹ *Id.* p. 37.

V- products or processes in biotechnology that utilise research from natural or artificial cross breeding, developed in Brazil except if required by those who made the cross breeding or with their permission;

VI- Pharmaceutical products that are listed as essential medicines at the World Health Organization (WHO);

Sole paragraph- Protection of intellectual property rights related to species and animal and plant varieties, including those destined to food production will be subject to special legislation."

Accordingly, chemical products and processes, foodstuffs, pharmaceutical products and processes, and biotechnology products and processes are omitted from the list of non-patentable inventions in art. 18. Therefore, they are patentable subject-matter.

The extension of patent grants to such technological areas can be regarded as the most significant improvement in the draft. It may mean the rejection of the "market reserve" strategy that has been guiding Brazilian intellectual property rights and industrial and technological development for more than 25 years.

The possible result of this is that foreign companies may invest directly in the Brazilian market in these areas, without the threat that their assets will be unfairly possessed and violated by third parties. According to the author of the draft,⁵² enhancing foreign investment in these areas, especially in R & D, has been the main reason for strengthening proprietary rights and for extending patent grants to technological areas previously impossible to patent.

In this sense, those areas excluded by art. 9 of law 5.772/71 have received special treatment. The draft has not only extended patent grants to those subject areas. Art. 198 has also permitted patent grants on processes and products that have already been patented and marketed in other countries. Accordingly, the draft gives patent grants for the remaining period of time of the patent in the country of origin. This is possible when the patentee requires a patent in Brazil within 6 months after the enactment of this law

⁵² Written report presented by the Deputy Ney Lopes about the draft substitutive which was improved by him. Brazilian Parliament. Intellectual Property Special Commission. 27th May 1992 at p. 20.

and insofar as:

"Art. 198...

I- its subject matter has not been worked in Brazil;

II- its subject matter is available in Brazil due to the exclusive initiative of the owner of the patent, or his heirs;

III- the owner has not taken serious effective preparations to market the object of the patent in Brazil."

This provision can act positively in influencing foreign companies to invest and market their products, even though these products are privately imported. Similar provisions are found in the Mexican law.⁵³

Nevertheless, paragraph VI of art. 18 seems to undermine these positive changes in the draft. According to paragraph VI of art. 18, the draft does not consider as patentable subject matter pharmaceutical products regarded essential to the full title of WHO (World Health Organization). The aim of the Brazilian Parliament in adopting this rule is to ensure the availability of "essential" or basic medicines to a population on low income. However, this provision can have a reverse impact on the availability of drugs. Companies that invest billions of dollars in R & D will probably not market them in places where reproduction without consent is permitted. It seems again that the Brazilian population could be deceived by misleading social arguments.⁵⁴

⁵³ See Mexican Law art. 12- Transitional provisions.

⁵⁴ Some Deputies in the Brazilian Parliament consider that the draft substitutive gives broad rights and weak obligations to the patentee. In the pharmaceutical case, they think that too extensive rights are given to companies. In this case, limitations in art. 18 towards drug patents can be looked upon as a tool to curtail some of the powers and rights given to them. See "Goldman Ve Desequilibrio Entre Direitos e Obrigacoes no Segundo Substitutivo" (Goldman Sees Disequilibrium Between Rights and Obligations in the Second Draft Bill), *Gazeta mercantil* (Brazilian Newspaper), 17th June 1992 at p. 3.

The negative impact of this provision on foreign investment and the availability of drugs in the market is accentuated by the threat of patent nullity existent in art. 82 paragraph V of the draft. Accordingly,

"Art. 82- A patent shall be null:...

V- when it is included in the list of medicaments considered essential to the World Health Organization (WHO)."

In relation to biotechnological inventions, the draft provisions seem to be liberal and positive towards investment. Firstly, they allow the patentability of processes and products in biotechnology. Secondly, the draft in art. 18 provides for the possibility of plant and animal varieties being patented.

According to paragraph III and IV, the patentability of plant and animal varieties is only prohibited when essentially biological processes are used to obtain them. thus, plant varieties and their propagating materials obtained from chemicals or microbiological processes are patentable subject-matter.

The distinction made between essentially biological processes and microbiological processes⁵⁵ lies in the fact that these provisions do not aim to interfere with the existing international protection granted to plant breeders. On the contrary, besides prohibiting patents on plants in their genetically form of plant varieties, the sole paragraph of art. 18 guarantees protection under special legislation.⁵⁶ This legislation will probably comply

⁵⁵ Although there is no interpretation and definition in the INPI concerning "essentially biological processes" and "microbiological processes", it is believed that the INPI will follow international definition guidelines.

The clearest international definition has been adopted by the EPO guidelines for examination at the European Patent Office- Part C chapter IV 3.4:

"The question whether a process is essentially biological is one of degree depending on the extent to which there is technical intervention by man in the process; if such intervention plays a significant part in determining or controlling the result it is desired to achieve, the process would not be excluded. [As] examples, a method of crossing, inter-breeding or selectively breeding, say, horses, involving merely selecting for breeding and bringing together those animals having certain characteristics would be unpatentable. On the other hand, a process of treating a plant or animal to improve its properties... or promote its growth... would not be essentially biological since although a biological process is involved the essence of the invention is technical..."

⁵⁶ It has been reported that a draft on the protection of plant varieties has been elaborated in the Brazilian Parliament. However, further studies and decisions are awaiting definitions on the subject in the intellectual property draft.

In relation to animal varieties, neither special legislation nor draft bill has been elaborated. It is believed that protection for animal varieties will take longer to be given due to the international disagreement on the subject.

with the existing provisions of the UPOV Convention.⁵⁷ This can be said by analysing the second part of art. 18 paragraph IV. This establishes that protection to plant and animal varieties will be done **"in accordance with international criteria."**

The importance of the exclusion of the patentability of animal and plant varieties derived from essentially biological processes, not microbiological processes, is the fact that the use of genetic engineering techniques in plants is a promising area. Insertion of genetic materials into plants to act against frost and pests, and in favour of tastier fruits are regarded as an important element in combatting hunger in the Brazil and making agriculture more efficient. However, the fact that vast sums must be invested in order to achieve the desired results calls for strong intellectual property protection which the patent system can provide.

The draft provisions in relation to the patentability of microorganisms *per se*, does not recognise them as inventions. According to art. 11:

"Art. 11- The following is not regarded inventions or utility models:...

IX- biological material found in nature, including the germoplasm and the one that is part of human genetic resources, defined as the human gene;"

However, following the biotechnological developments on the isolation and manipulation of microorganisms, and the positive effect of the *Chakrabarty Case*,⁵⁸ such manipulated microorganisms cannot be regarded as included in art. 11 paragraph IX. It is expected that the INPI will accept similar international consensus.

In relation to germoplasm and human genes, although they can be isolated and manipulated by humans, it is believed that they are in no way patentable. However,

⁵⁷ The UPOV Convention has recently been revised in its 1991 Act. The main changes adopted in 1991 are: (a) redefinition of the term plant varieties; (b) freedom to grant patent as well as special legal protection to breeders (the PVR system); (c) provisions that create the farmer's privilege to use propagating material of plant varieties; (d) recognises the fact that protected varieties can be used as initial source of variation for the creation of new varieties; (e) establishes that a variety which is essentially derived from a protected variety cannot be exploited or used as a variety development by a patentee without the breeder's authorisation.

⁵⁸ *Diamond v. Chakrabarty* [1980] 447 U.S. 303

products containing them are to be regarded as patentable subject matter. The reasons behind the justification for this prohibition are controversial. They are ethical and health considerations, and the political reasons behind them. In the former case, it is believed that the Brazilian Deputies could not extend patents to a subject that internationally has not obtained general consensus. The fact that someone can have the monopoly of a vital part of a living organism, raises questions about accessibility of those materials to other people, especially those that are directly affected by genetic defect. In relation to political reasons, the Brazilian authorities want to protect the existing rich genetic resources of wildlife. The result of this would be to protect biodiversity in the rainforests and to force companies to pay royalties for the use of such germoplasm.

It is believed that the decision not to include genetic material as patentable subject matter is a positive one. This has prevented the controversy surrounding the issue from affecting the protection of biotechnology inventions as a whole.⁵⁹ The same point can be applied to protection of animal varieties since there still exists international controversy.

Another interesting fact related to biotechnology is that art. 18 paragraph V of the draft does not undermine the liberal provisions relating to biotechnology inventions. Paragraph V art. 18 requires the breeder's consent to use a plant variety that derives from a protected variety obtained by natural breeding (understood as essentially biological processes) and artificial breeding (interpreted as microbiological processes). In relation to natural breeding, this need for consent has already been accepted by the 1991 Act of the UPOV Convention.⁶⁰ The European Community Draft Directive on Biotechnology⁶¹ at art. 14 has also sets out rules on the subject. According to art. 14, a non-exclusive license will be agreed from patentee to breeder, or vice-versa, for the exploitation of the

⁵⁹ Nationalists, leftists and the Brazilian church have been the main groups against patentability of biotechnology inventions. The political, ethical and religious connotation of the arguments instead of technical arguments on genetic material could have easily hampered the patentability of biotechnology. See "Secretario-geral da CNBB Diz Que Relatorio Atende Interesse das Multinacionais" (Brazilian Church's General Secretary Says That Draft Substitutive Fulfills Transnational's Interest), *Gazeta Mercantil* (Brazilian Newspaper), 24th June 1992 at p. 12. See also Tonelli, *op. cit.* 44 at p. 7.

⁶⁰ See Art. 14 (5) 1991 UPOVC.

⁶¹ EEC BioDirective, *op. cit.* 138 in Chapter Three at art. 10.

protected variety. It will involve the payment of fees or royalties.

In relation to artificial breeding, plant varieties obtained from it are patentable subject-matter. Therefore, the patent system already requires permission to use a patented plant variety. In this case, the patent related to artificial breeding in paragraph V is technically incorrect and appears to have no purpose.

Paragraph V can be regarded as conforming with international standards. It seems not to constitute an obstacle to investment.

4.5.2.2 Patent Term:

According to art. 48 of the draft, the duration of patents for inventions is extended to 20 years; utility models for a period of 15 years; patents for industrial designs for a term of 10 years. All of them running from the filing date of the application.

These terms, and the dates from which they will be counted from, conform with international standards, especially with the guidelines of the European Patent Convention.

Another important change in relation to patent term is the sole paragraph of art. 48. It has created the possibility to enlarge the term for patent inventions for a further three further years if:

"Sole paragraph...

I- its object is explored through licensing agreements or through the formation of joint-ventures with Brazilian companies whose direct and indirect control belongs to a person resident in Brazil and that it is guaranteed the effective transference of technology; or

II- research for the complete development of the product or process have been done in Brazil."

Art. 48 sole paragraph can be an incentive to facilitate the inflow of technology and

foreign investment.

A similar disposition exists in the Mexican law in art. 23. However, the Mexican provision on the extension of patent duration is more limited. It applies only to pharmaceutical chemicals or pharmaceutical products, or processes for obtaining them. Also, patent extension is granted only for licensing pharmaceutical technology to a corporation with majority Mexican capital. It does not extend to joint-ventures.

The fact that the draft covers joint-ventures between foreign and domestic companies as an acceptable basis for patent term extension means that the Brazilian Parliament is committed to attracting foreign companies to establish themselves in the domestic market. It guarantees that technology can enter the country and that industrial development of related sectors can take place.

4.5.2.3. Working Requirement and Compulsory Licensing:

It is believed that it is in order to make companies establish themselves in the Brazilian market, that the draft has maintained the working requirement for patent validity.

According to art. 72 of the draft, a patentee is compelled to license the patent to a third party when he does not explore effectively the patent's object or when he abuses rights conferred by the patent.

The non-effective exploitation can also be a factor in patent forfeiture, according to art. 84 paragraph 1.

In this respect, effective exploitation is defined by art. 72 paragraph 2 as

"the manufacture of the product, object of the patent or the integral use of the patented process, in Brazil, by its owner or licensee, and its commercialisation in a way it fulfills the market needs, duly complying with the norms and technical specifications."

Although the draft has emphasised the duty to manufacture and to commercialise the patent product in the Brazilian market, it has admitted that production is not always feasible. Therefore, sometimes the working requirement cannot be fulfilled. According to art. 73 of the draft, compulsory licensing will not be granted when effective exploitation of a patent is prevented by force majeure or legal obstacles and when it is proved that the patentee has taken serious steps towards initiating the exploitation.

The above provisions can be regarded as positive *vis-a-vis* to the patentee's position. The patentee is exempted from manufacturing the product or using a patented process in Brazil when supervening situations persist and legal obstacles exist. Art. 73 is very important to the patentee in Brazil. Brazil's economic and technological development has been highly regulated by the government. Import restrictions have been one of the most widely used instruments to enhance economic development. Although government measures, that change fundamentally the nature of private business, can be regarded as force majeure, the INPI has not been accepted this view. Therefore, it has allowed forfeiture of patents when government interventionist measures make the manufacture of the patent impossible. This provision can be regarded as an improvement in Brazil's intellectual property law.

Furthermore, and still related to art. 73, the fact that the patentee is doing market research for the commercialisation of the product of the patent, close to the date at which compulsory licensing could be granted,⁶² can be regarded as fulfillment of the working

⁶² See Draft bill. Art. 72 Parag. 3- "Compulsory licensing dealt by this article will only be granted after 3 (three) years from the date of patent issue. It is not admitted the patent interruption for more than 1 year."

requirement. This could diminish the pressure on the patentee to manufacture the patent immediately without checking the commercial feasibility of the product in the market.

The non-acceptance of importation as working the patent can be a negative point to the patentee who wants to commercialise the product of the patent, in the market, not through manufacture, but by importation. The answer of the draft to the freedom to import the patented product is provided in art. 72 paragraph 4:

"Paragraph 4. Importation of the product protected by patent will not be regarded abusive exercise of the patent only in the following situations:

I- in case of international agreement or agreements for the complementation of products ratified by the Brazilian Parliament;

II- when public interest is declared by the Executive power;

III- when those products are parts, spare parts, components, raw materials and other inputs designed to integrate Brazilian product, that are commercialised domestically, taking into consideration the nationalisation rates established by the due authorities;

IV- when the product manufacture in Brazil is proved to be uneconomical, considering the domestic demand and its price in relation to the imported product, in this case, the INPI should be previously communicated;

Accordingly, the importation of patented products is regarded as an exception to the rule for the fulfillment of the working requirement set out in art. 72 (2).

By establishing that importation of patented product is exception, it seems that the draft wants to encourage foreign direct investment. However, foreign investment is encouraged without commercially overburdening the foreign patentee.

The reasons for those situations laid down in the draft that meet the working requirement are: Firstly, paragraph I of art. 72 (4) can ensure that the MERCOSUR agreements on trade liberalisation, and other future prospects for trade agreements such as the "Enterprise for the Americas Initiative"⁶³ are not damaged by the effective working of the

⁶³ The "Enterprise for the Americas Initiative" is a programme created by the former U.S. President George Bush. Its objective is to create strong commercial links between the U.S. and its Latin American partners. Also, the programme aims to phase out import tariffs throughout the Americas as being adopted by the NAFTA. The envisaged "Enterprise for the Americas Initiative" will cover all American countries, from Canada to Uruguay.

patent. Therefore, it prevents the working requirement acting as an informal barrier to imports from the MERCOSUR countries. In relation to paragraph II, the Executive power will be able to regulate the supply and demand of the patented product in the market, according to their interest. This will allow import and the working requirement's fulfillment of vital medicines and important high-technologies. Thirdly, by permitting the import of spare parts for Brazilian products, it guarantees that the patentee's monopoly is respected as well as the availability of the product in the market. Given the fact that imports are largely machinery and equipment which is used to integrate with manufactured goods produced in Brazil, the draft opens up the possibility for greater imports of patented goods. In a way, this paragraph can be regarded as a loophole that can be used by foreign companies to fulfill the working requirement without manufacturing in Brazil. However, this paragraph can push the patentee to join with Brazilian domestic companies through joint-ventures or manufacturing agreements. It allows foreign patentees to create goodwill and a market for their products in Brazil before venturing into manufacturing production. It must be noted, however, that, imports of patented goods as fulfillment of the working requirement, according to paragraph III, are limited by the import rates established by the authorities which can vary according to political and economic reasons.

Finally, paragraph IV has been included in order to allow the patentee who wants to market his product in Brazil to remain competitive in the domestic market. It encourages manufacturing production without overburdening the patentee. The positive result of paragraph IV is that the patentee will be able to bring to Brazil goods that are more competitive than the ones manufactured in the market. At the same time, he will maintain the patent's monopoly. It will force the Brazilian market to become more competitive by reducing the red tape that makes production more expensive.

The above provisions relating to the working requirement are believed to have provided a balance between the need for production investment and the possibilities for the

patentee to import the patented product, where necessary. Therefore, the draft seems to have adopted a realistic approach, taking into consideration the need for foreign investment, patent manufacture and the economic reality faced by the patentee when manufacturing in the market is required. Furthermore, it can be said that the manufacturing principle in the working requirement has created a new trend in intellectual property in Brazil. The working requirement and compulsory licensing are not seen as a punishment to the patentee for not having used his patent, or as prevention instrument against companies' restrictive business practices.⁶⁴ They can be regarded as a tool to ensure the patentee will manufacture in Brazil, and that employment, tax revenues and industrial competitiveness will all increase.

Comparing the Mexican law with the draft, with regard to the working requirement, the Mexican law is much more liberal. It provides that any import fulfills the working requirement. The justification for this position has been the fact that insisting on the manufacture of the object of the patent in Mexico would be a contradiction to the liberalisation policy adopted by the Mexican government.⁶⁵ Moreover, the Mexican authorities believe that the effects of importation and licensing agreements can be similar to local manufacture. In reality, this liberal provision seems to match with the present economic and trade situation in Mexico, According to the North America Free Trade Agreement (NAFTA), Mexico, Canada and the United States are committed to phasing out import tariffs. The restrictions on imports due to the working requirement would be considered as an informal tariff barrier against American and Canadian imports. As a result, it could contravene the NAFTA rules.

In the Brazilian case, the working requirement adopted by the draft does not seem to contradict the present liberalisation policy insofar as fostering and inducing foreign investment are part of the objectives of the policy.

⁶⁴ See Haar, *op. cit.* 11 in chapter II at pp. 85-91.

⁶⁵ See Gonda, *op. cit.* 17 at p. 438

The last important alteration in relation to the working requirement has been to allow granting of compulsory licensing when it is thought the patentee has abused his rights.⁶⁶ Art. 72 (1) establishes that abusive exercise of a patent is defined by art. 173 (4) of the Brazilian Constitution. Accordingly,

"Art. 173 (4). The law will repress the abuse of economic power that aims to dominate the market, to eliminate competition and to increase arbitrary profits."

The objective of art. 173 paragraph 4 is to prevent commercial dominance preventing competition and prices rises. The draft aims to maintain low drug prices and reduce restrictive business practices where a company obtains a patent but uses it only to preclude competition.

However, the use of intellectual property law to prevent the abuse of a dominant position in the market seems to be misguided. This action should be part of a general antitrust law. Furthermore, granting compulsory licensing to a third party as a penalty for price increase would be excessive and an infringement on the patentee's monopoly.

The presence of this provision in the draft can be regarded as harmful to foreign inventors and investors, especially those that rely on large profits to undertake further investment.

⁶⁶ Art. 72 of the draft bill.

4.5.2.4 Rights of the Patentee:

With regard to the protection afforded to the patentee by the draft bill, the innovation has been the specific discrimination of the rights of the patentee. According to art. 50 of the draft substitute:

"Art. 50. A patent gives to the owner, the right to prevent third parties, direct or indirectly, without his consent from:

I- manufacturing, importing, selling, exposing to sell or stocking the product object of the patent;

II- using, selling or offering to third parties the process object of the patent;

III- importing, selling, exposing to sell or stocking the product obtained directly from the process object of the patent;

IV- reproducing, importing, selling or exposing to sell or stocking patented ornamental model or model used to produce the invention."

The importance of this provision lies in the fact that there is a delimitation of the rights of the patentee. He will know when someone infringes his rights. This is an innovation since in law 5.772/71 the patentee's rights were not expressly defined.

Art. 50 of the draft is complemented by art. 51 which sets out the exceptions to the patentee's rights. According to art. 51:

"Art. 51. The provisions of the previous article do not apply to:

I- acts done by third parties, without the patentee's consent, for private purposes and without commercial intention, insofar as such acts do not harm the economic interest of the patentee;

II- acts done by third parties, without the patentee's consent, for experimental purposes, related to studies or scientific and technological research;

III- the preparation of medicines, according to medical prescription, for individual cases, that are undertaken by qualified professionals;

IV- products manufactured, according to the process or product patented, that

are put in the domestic market or acquired in the external market directly from the owner of the patent or without his consent;

V- third parties that, in case of patents related to living matter, use the patented product as an initial source of variation or propagation to obtain other products;

VI- third parties that, in case of patents related to products that consist of living matters, use or sell a patented product that has been legally introduced in the market by the owner of the patent or licensee, when the patented product is not used for the propagation commercial of the living matter."

Some provisions of art. 51 seem to contain loopholes that can weaken the absolute monopoly of the patentee. The first loophole can be seen in paragraph II. It seems that the wording of paragraph II is not technically correct thereby leading to misunderstandings. Comparing paragraph II of the draft substitutive with art. 22 (ii) of the Mexican law, it is possible to see the meaning of paragraph II. Paragraph II can be interpreted as permitting third parties to reproduce the patented process or product for purely experimental and study purposes. For example, a teacher might reproduce a certain chemical process in order to explain how the chemical elements react. Another example would be any public or private scientific institution to checking the amount of chemical a determined patented product contains for health or scientific purposes.

However, as set out in paragraph II, it allows third parties to reproduce and use the patented product for technological research that leads to the development of new products. An example would be the reproduction and use of a medicine that cures tuberculosis for the purposes of developing a new medicine to cure pneumonia. In this case, the objective of the patent's use and reproduction would be for commercial purposes. Therefore, the patentee's consent would be necessary. The result of this provision can be negative to the patentee since he would have his rights affected.

A clearer provision has been adopted by the Mexican law. It defines clearly the situation where scientific research cannot be infringed. According to art. 22:

"Art. 22. The rights conferred by a patent shall not have any effect against:

(i) a third party who, in the private or academic sphere and non-commercial purposes, engages in scientific or technological research activities for purely experimental, testing or teaching purposes and to that end manufactures or uses a product or a process identical to the one patented."

Also, paragraph V of art. 51 provides a similar loophole. It can allow third parties to use a patented product or process, involving living matter, as an 'initial source' of propagation and variation to obtain other products, for commercial purposes.

In this case, 'initial source' can mean experimenting on the patent for the purpose of improving upon it, reproducing a biotechnology invention to induce a mutation, and manipulating a living matter in order to create a new product. An example would be a manipulation of a patented microorganism that broke up the chemical mercury which causes industrial pollution, so that it leads the same microorganisms to brake up lead and nitrate for environmental purposes.

In this view, it seems not to be regarded as an 'initial source' if a patented living matter needs to be constantly reproduced and propagated for the maintenance of the new product.

If 'initial source' can be understood by the INPI as use of a biotechnology invention to induce mutation, paragraph V of the art. 51 can be harmful to the patentee's interest. Third parties will use patented living matter, without the patentee's consent, to develop new products for commercial purposes. Thus, the patentee will have no control on the use of his patented invention nor on the commercialisation of the improved product which used his invention as an 'initial source'. Also, in this case, a distinction between using a patented biotechnological invention for experimental research and for commercial purposes would not be necessary.

Furthermore, this situation gets worse if the new development that used the patented living matter is self-replicating. In this case, a third party would be allowed to use a small quantity of the patented living matter that is also self-replicating to develop a new product for commercial purposes, without having to go back to the patentee. The result would be less protection to the first invented product used as an 'initial source'.

The INPI can improve the rights of the patentee by adopting a similar interpretation to that found in the European Community draft on biotechnology inventions⁶⁷ According to the European draft, it will not be regarded as infringement if the developed product obtained from the experiments and propagation is used only for private or experimental use. However, the INPI will need to define clearly what is considered as experimental use.

Paragraph IV can also be harmful to the patentee, especially foreign ones. The meaning of paragraph IV has been to open up the possibility of anyone using, selling or reselling the patented product once it has been marketed with his consent. This is regarded the exhaustion of patentee's rights.

However, the draft substitutive has also allowed third parties to import the patented product when bought directly from the owner or from any third parties authorised to sell the owner's product. This provides for parallel importation.

According to the Deputy Ney Lopes,⁶⁸ the permission to import patented products in parallel with domestic production without the patentee's consent has been to ensure that the patentee does not abuse the patent and the population can have access to the patented product. Here, using the patent abusively means to commercialise the product at a higher price than in the international market.

Although the Deputies in the Brazilian Parliament have expressed their "good" intentions towards the population, allowing parallel importation causes problems for the

⁶⁷ See EEC BioDirective, *op. cit.* 138 in Chapter Three at art. 10.

⁶⁸ Ney Lopes report, *op. cit.* 52 at p. 25.

patentee and exclusive licensees in Brazil. Where importation is allowed without the patentee's or the licensee's permission, it can damage his economic position in the market. The patentee will not have any control over the origin of the product imported into the market thereby affecting his production and commercialisation of the patented product in Brazil. The immediate consequences would be availability of excess of market demand, economic losses in the market and workers being laid off.

Another negative point relating to allowing parallel importation is the fact that commercialisation and marketing would not be in the patentee's hands. Nowadays, marketing strategies and the correct channels of distribution and commercialisation are very important for the commercial success of a patented product. In this case, the patentee can have his goodwill affected.

Parallel importation can also act negatively on the entry of foreign direct investment and on the strengthening of local companies. It disorganises production and commercialisation plans of companies thereby making the market insecure for large and future investment.⁶⁹ In relation to local companies, it affects especially those who obtained exclusive licences to manufacture the patented product in the market. It may hurt the profitability of these local companies.

From this point of view, the draft seems to have a contradiction. At the same as it creates provisions that can enhance the transfer of production to Brazil, it also allows the importation of parallel products without the patentee's consent.

Another serious consequence of allowing parallel importation is the fact that it opens up the possibility for the importation of counterfeit goods.⁷⁰ Third parties will be able to import goods that could easily be faked copies. This could damage the patentee since goods with inferior quality would be available in the market. Allowing parallel imports can also make it difficult for the Brazilian authorities to combat the inflow of

⁶⁹ See Handerson, Kerrie, "Whose Free Ride Is It, Anyway?", [1992] September *Managing Intellectual Property* at pp. 33-35.

⁷⁰ See Hanse, K. D., "Parallel Imports and the Battle Against Piracy" [1992] 2 *EIPR* at pp. 35-36.

counterfeited goods. The need to stop importation of faked products is ever more important given Brazil's proximity to Paraguay which is one of the leading countries producing counterfeit goods. Also, detecting counterfeit goods has been admitted to be very difficult and expensive. This can only be done through the physical inspection of imported goods. Also, it needs qualified people able to distinguish products that are very similar.

In the case of Brazil, combatting counterfeiting more effectively would lead to investment in training people and more efficient barrier controls. The prohibition of parallel imports would help the government to avoid massive investment in that.

4.5.2.5 Protection of Marks Used and Registered in Third Countries, and Well Known Trademarks:

In relation to the protection of trademarks, the most important change has been the redefinition of the protection of foreign and well-known trademarks.

According to art. 103 and art. 104 of the draft bill, two new concepts have been presented:

"Art. 103. A mark registered in Brazil, considered a highly known trademark, will be secured special protection in all trademark classifications, with particular registration in order to prevent registration of other marks that reproduce or imitate it, fully or in part."

"Art. 104. A mark notoriously known, according to art. 6bis of the Paris Convention for the protection of intellectual property, in determined trademark classification, will have special protection, independently of being deposited or registered in Brazil."

According to art. 104, the draft recognises the protection of trademarks that possess an international reputation. In this article, "notoriously known" marks is interpreted as "well-known" marks, according to art. 6bis of the Paris Convention. Besides that, art.

104 provides out that the protection of well-known marks or notoriously known marks will be done independently of being previously registered in Brazil.

This provision is a significant improvement since law 5.772/71 does not recognise legal protection to well-known marks according to art. 6bis Paris Convention. Law 5.772/71 does not protect foreign marks unless they are known throughout the Brazilian territory and by all social classes and registered in the INPI.

However, this provision seems not to meet requests for more extensive protection to be afforded to foreign owners of trademarks as required to enhance foreign investment. Firstly, art. 104 omits the need to use the well-known foreign mark in Brazil in order for it to be protected. The INPI will be responsible for interpreting art. 104 when a mark is well-known worldwide, including in Brazil, but has not been marketed in Brazil. If the INPI interprets art. 104 of the draft by deciding that a worldwide known mark need not be marketed in Brazil, in order to be considered well-known, this will be an important improvement in the law. This will be regarded as an exception to the principle of use and first-to-file. However, if the INPI decides to protect a worldwide well known mark only after the product bearing the mark is marketed in Brazil, this will constitute a legal restraint to direct foreign investment. Also, misuse of foreign marks will be carried on by domestic third parties and the insecure state of proprietary rights will persist.

Secondly, art. 104 does not define the term "notoriously known". It is expected though that the INPI will also adopt a more liberal interpretation. This means that well-known or notorious mark in Brazil will be those that are only well-known by a social group or in a certain region of Brazil.

With regard to foreign trademarks, an improvement of the draft has been art. 121 paragraph 1 which sets out rules regarding forfeiture of trademarks. According to this article, forfeiture will not take place if the owner of a trademark has not initiated its use in Brazil, but is proved to have taken effective steps to use the mark. Also, forfeiture will not happen when lack of use is justified due to force majeure or legal obstacles. This will

help to protect the owner of a trademark who has been prevented from using the mark due to importation restrictions or economic hardship as in the Rover Case.

Another change has been art. 103. Its important point has been the creation of a special protection in all trademarks classifications for marks that are regarded as highly known.

The Code does not define "highly known" trademarks. However, it is believed that the existing understanding in the INPI of well-known trademarks under law 5.772/71 is applicable. It means that "highly known" marks will be a mark registered in Brazil and which is known by all social classes and by the majority of the population. Also, the owner of the trademark will have to prove that his trademarks deserve the status of "highly known" by indicating the amount spent by him on advertising. The granting of such a status is likely to be very difficult.

The protection afforded in the draft to foreign marks seems not to be satisfactory. Art. 103 and art. 104 gives protection only to trademarks that have been acquired a well established reputation in Brazil. In this case, marks that are being used or registered in a foreign country, but not registered or marketed in Brazil, do not receive protection.

As already mentioned, the tendency towards market globalisation and the international spread of information and advertising have required more comprehensive and stronger trademark protection. Protection should be afforded to all foreign companies' trademarks, especially those that can create confusion among consumers. The extensive protection required has already been adopted by the courts in some countries. Moreover, the problem of misappropriation of a foreign mark used or registered in one country but not in others has already been faced by domestic companies overseas. Domestic companies' trademarks have been misappropriated by third parties in Argentina, Chile, Paraguay, Portugal and Uruguay. However, it seems who those that elaborated the draft have been insensitive to such international economic and legal developments. Therefore, the draft fails to protect foreign trademarks not regarded as well-known in Brazil.

The lack of more extensive protection leaves foreign owners of trademarks in the hands of the courts. This fact has already been seen when the protection of well-known trademarks was requested. However, expectations seem not to have been satisfactorily met since the courts confirmed the protectionist trace of the INPI in granting protection to well-known trademarks.

4.5.2.6 The INPI and the Draft Bill:

Although the draft bill in art. 204 has stated that administrative changes in the INPI should take place, it has not requested further modification in the INPI's powers to regulate technology transfer contracts.

Administrative changes appear necessary if the INPI is to administer efficiently the bureaucratic procedure set out by the draft substitutive. However, although a new liberal economic policy has been drawn up and technology transfer rules have been made more flexible, the draft has not diminished or phased out the powers of the INPI.

Art. 181 of the draft confirmed the INPI's action to interfere in technology transfer contracts:

"Art. 181. The INPI shall register and follow acts and contract provisions related to technology transfer."

According to this, the draft has kept the powers established by law 5.648/70:

"...The INPI shall adopt regarding the economic development of the country, efficient measures to accelerate and to regulate transference of technology and to establish better conditions of negotiations and exploitation of patents."

Thus, the interference of the INPI in contracts involving technology transfer is guaranteed. The result of this could be the fact that the INPI's approval will be issued in accordance with the national economic interest instead of the business interest of the licensee. Furthermore, more liberal provisions relating to technology transfer will still depend on the INPI's goodwill which is determined by the policy of the government.

Assuming that the draft has failed to phase out the INPI's interference in technology transfer contracts, the fact that technology transfer regulation will be determined by the INPI's instructions not by legislation is a positive point. Changes in regulations will not be dependent on parliamentary approval. In this case, changes can take place faster.

Nevertheless, as already stated, the Brazilian economy's need for technology and investment do not require intervention on the part of the authorities. Therefore, the draft has missed an important opportunity to liberalise the system applicable to technology transfer, as was the case with the Mexican law. According to art. 3 of the Transitional Provisions of the Mexican law **"it shall not be necessary to prove registration at the National Registry of Technology Transfer of instruments, contracts or agreements relating to technical assistance, technology transfer or royalties."**

In relation to provisions relating to licensing contracts, the draft has eliminated restrictive provisions of Law 5.772/71. It has phased out provisions that prohibit the "export prohibition clauses", and provision that established that remuneration of such contracts will be done by the authorities not by the parties. However, it has kept the "amelioration clause" which establishes that any improvement in the patent licensed will belong to the licensee. Thus, the tendency will probably be to prevent the parties from deciding about crucial provisions of the contract. This can already be seen in the present technology transfer regulations. In Resolution n. 22/91, the INPI has kept its powers to follow the absorption of the technology by the licensee. With the powers given by law 5.648/70, it is unlikely that the parties will have full power to govern their own contract of technology. Moreover, a liberal understanding of technology transfer will depend very

much on the political tendency of each government and on a defined liberal policy towards economic development.

CONCLUSION

CONCLUSION

Technological development has been crucial in the history of mankind. Its main contribution has been in providing new and more efficient methods of achieving given results. This has made technology a key determinant in social history and in the economic development of countries.

The most important feature of technology in economic development has been its influence in production factors such as land, labour and capital. Through technological development, the efficient use of these make production less costly. Technology can make industrial output grow faster than populations. Products can be made of better quality. Furthermore, technology can also eliminate market imperfections that obstruct commercial transactions. The possibility of reducing market imperfections has been crucial in making commercial transactions efficient and the availability of goods to the population more secure.

In the modern history of Europe, technology became a significant factor in development during Mediaeval times. Technology was crucial to the creation and expansion of local markets and of trade. In the Low Countries, technology contributed immensely to the organisation of the commercial and industrial infra-structure that improved inter-state and international trade. An example of technology's influence in this economic development, as we saw in Chapter One, was the expansion of woollen cloth industries in the Low countries.

This led other European countries to adopt measures to foster creativity and to attract technological innovation. One of the most important incentives was the guarantee of ownership of new technology and the granting of a monopoly to the owner of it to manufacture the object of his invention. These rights were given under the condition that the inventor or the owner of the innovation would disclose it and manufacture it.

The Patent System and Economic Development

As described in Chapter I, the granting of ownership to the importer of an innovation was first introduced in England in the fourteenth century as a deliberate policy to attract technology.

This policy of granting patents had a positive impact on the economic development of England. By the middle of the fifteenth century, several foreign manufacturers had brought their technologies to, and established their industries in, the country. England could produce most of the industrial goods it needed. English textile industries, for example, gained new technologies and became more competitive in the market. The positive results obtained in England from the granting of patents were important in justifying the presence and development of the patent system. In 1624, the British Parliament enacted the Statute of Monopolies, but preserved the patent system to protect those introducing any new manufacturing process innovation. During the eighteenth and nineteenth centuries, the bureaucracy needed to deal with requests for patents was improved. With increasing competition in the market, the patent system began to play an important part in securing property in technology. As a result of property being guaranteed to the owner, investors had the assurance that investment in technology could be recouped through profits. This was important in making available to the public new techniques and developments in the form of goods.

The positive results the patent system had for the economic development of England influenced other countries to adopt similar policies. In France, after the 1789 Revolution, it was declared that an inventor had property in an innovation similar to the property in an object. The United States also recognised the economic importance of the patent system, as a means of securing property rights and guaranteeing the exclusive monopoly to the inventor.

By the end of the nineteenth century, the granting of patents and the adoption of the intellectual property system was internationally widespread and recognised as a tool to promote economic development, not only in western countries but also in less developed countries and former colonies such as Argentina and Brazil.

The growth of international trade, the commercial interdependence of countries, and the already existing complex legal structure of the intellectual property system, led to increasing pressure for the adoption of uniform international regulations. This led to the organisation of the Paris Convention in 1883.

In the case of developing countries, the patent system was introduced, mainly after the Second World War, as a consistent and deliberate policy to enhance economic development. By giving protection to intellectual property, developing countries have since tried to attract the foreign technology that is crucial to their economic development.

However, during the 1960's and 1970's, the belief in many developing countries was that intellectual property was conferring more costs than benefits. They believed that the intellectual property system was detrimental to the industrialisation process being pursued by them. They believed that securing ownership and granting manufacturing monopolies to foreign companies would commercially favour such companies to the detriment of local enterprises. Therefore, it would threaten the commercial existence of domestic enterprises in the local market. This would harm those developing countries which desired economic strength and political independence. Moreover, the capital needed to foster development could be obtained through exports, tax revenues and market competition. Developing countries also believed that foreign companies were using the patent system to further unfair business practices. Instead of manufacturing, the object of the patent in the market, they were using it to prevent competitors from entering into the market.

The developing countries adopted a dual response to this. First of all, at an international level, they requested the revision of the Paris Convention's provisions, and the

promulgation of international rules on technology transfer that would improve the position of domestic licensees. Their main request in relation to the Paris Convention was for a change in the national treatment principle that prevents any country from discriminating between foreign and domestic inventors. They also wanted to strengthen the patent working requirement by diminishing the period for which the patentee has to manufacture the object of the patent in order not to lose his patent. Secondly, at a national level, developing countries adopted a deliberate policy of restricting the rights of patentees, thus aiming to weaken the foreign patentee's position.

The policy led to an increasing number of counterfeit activities in such countries. American companies are reported to have been losing six to eight billion dollars due to counterfeit activities. Foreign companies have consistently been excluded from developing countries' markets due to restrictive and inadequate intellectual property protection.

The consequence of this has been that foreign companies have been cautious about transferring their technology and production to developing countries.

To Summarise:

Against this economic and historical background what this thesis has concluded may be summarised as follows:

(1) Developing countries' actions on intellectual property have led to a tighter international environment for technology transfer.

Facing stiff international competition, increasing investment risks and uncertainties in developing countries, and the increase in counterfeit activities, foreign companies have increased pressure for a tightening of property controls on their technologies. In the meantime, foreign companies have been refusing to transfer their technologies to countries where weak standards of intellectual property protection is seen.

(2) Adequate intellectual property protection is important in enhancing foreign direct investment and technology transfer. This is because foreign investment will go to places where there are minimal commercial risks and high financial returns. In this case:

(a) Adequate intellectual property rights ensure that the technology transferred and the newly developed products are not misappropriated by third parties. They guarantee that large investment made in technological development and in the transfer of production to other markets are not lost and may be recouped;

(b) They provide an incentive for foreign investors to profit in the market and consequently recover the investment made.

(3) There is an incompatibility between inadequate intellectual property rights and greater economic development. This rests on the fact that foreign technology and foreign direct investment provide:

(a) new techniques to increase the efficiency of productive factors.

(b) technological information;

(c) tax revenues;

(d) employment;

(e) market competitiveness;

(f) lower inflation;

(g) an improvement in the balance of payments;

(h) increasing competitiveness for local companies;

(i) diminished public participation in the market and lower public spending.

The Case of Brazil

At this juncture, Chapters three and four contain the chief contributions to knowledge made by this thesis in elaborating in detail the case of Brazil, which has hitherto not been treated at length in the literature on intellectual property.

In Brazil, foreign direct investment has been a very important source of technology and a key factor in enhancing the desired industrialisation of the country. Regarding present Brazilian economic development and its existing imbalances, foreign direct investment is regarded as crucial. Its main roles are: (1) improvement of the competitiveness in the market thereby reducing persistently high inflation; (2) fostering the development of different sectors which will lead to a reduction in state involvement; and (3) providing the capital for much needed growth, thereby reducing the country's dependence on loans from international banks.

Nevertheless, a series of obstacles to increasing the inflow of foreign technology and investment exist for foreign investors. As we saw in Chapter three, the existing Brazilian intellectual property and technology transfer regulations are among the main ones.

As demonstrated in sections 3.3 and 3.4 the main problems concerning technology transfer regulations was excessive state interference, and the reduction of the parties' freedom of contract. The main regulation related to this limitation was Normative Act n. 15/75, which is still being applied as a reference to fulfil existing doubts in the present technology transfer regulation. Most technology transfer clauses had to comply with the provisions of Normative Act n. 15/75 in order to have any legal effect. Furthermore, the technology to be licensed needed to be of economic interest to Brazil, such interest being judged by the officials administering the system.

This provision made the transfer of technology extremely bureaucratic and difficult. Also, the lack of freedom in the contract indicated the government's distrust of foreign licensors. This created a hostile environment for foreign companies to operate in.

Consequently, it has led foreign companies to refuse to license technology to Brazilian domestic companies, thereby affecting their competitiveness.

In relation to intellectual property, the existing obstacles to foreign investment may be regarded as a consequence of the protectionist and inward looking economic policy adopted by the government.

An aspect of the import-substitution policy is that the government has been using restrictive economic measures, such as the creation of reserved markets, as instruments to enhance the development of economic sectors. In the case of the technological sector, which has been regarded as an area of national security, inadequate intellectual property rights have been used as an instrument to limit the power and the influence of foreign companies in favour of domestic enterprises. Thus, the government has not recognised patents in areas such as biotechnology, chemicals and pharmaceuticals. In addition, it has allowed local companies to misappropriate innovations, to reproduce and to sell their products without the owners' permission.

In the area of biotechnology, the government's restrictive attitude to intellectual property is more damaging due to the fact that this is a promising area in international trade. Biotechnology companies in Brazil are regarded as having good prospects to grow internally and in the international market. However, neither patents nor special protection to plant varieties have been given to biotechnological innovations.

The reluctance of the Brazilian government to extend patent protection to such areas as a means of securing markets for local companies has created a "market reserve phobia" in Brazil. This has had a series of consequences for the Brazilian economy. Firstly, and most importantly it has led to the refusal of foreign companies to invest directly in Brazil. In fact, it has been reported that some pharmaceutical and biotechnology companies have given up production in Brazil. Secondly, especially in the biotechnology area, companies have been refusing to commercialise their products and to undertake any biotechnology R & D products in Brazil. This affects the organisation and development of a technological

infrastructure. Furthermore, it obstructs the development of a strong domestic market for biotechnology. Thirdly, foreign owners of technology have been reluctant to license any technology to Brazil. Technology exchange and foreign technology, however, are crucial for domestic companies, especially biotechnology ones. Fourthly, the American government has placed Brazil on its watch list for trade retaliation. If inadequate intellectual property protection persists the American government will impose trade sanctions such as higher import tariffs on Brazilian products that compete in the United States.

Another important aspect of intellectual property rights in Brazil in relation to investment, has been the lack of protection for foreign marks, especially those well-known worldwide. Although Brazil is a signatory country of the Paris Convention, the intellectual property code (Law 5.772/71) and the INPI have applied provision *6bis* of the Paris Convention restrictively. Before foreign marks can receive special protection, they must be registered and commercialised in Brazil. Although a mark may be well-known worldwide, its registration, its use in the domestic market, and a notoriety examination by the INPI are indispensable for protection to be granted by the INPI. This has made securing protection extremely difficult.

The INPI's strict application of the territoriality requirement has been confirmed by the Brazilian courts as shown in section 3.5.3.3. However, the Brazilian courts are wrong: they are not applying the Paris Convention. They apply strictly the "attributive system" and have disregarded the basic function of trademarks. Third parties in Brazil have taken advantage of the strict rules governing registration, by appropriating and using world famous trademarks in Brazil without the owners' permission. Their objectives have been twofold: Firstly, by commercialising the mark, local companies have wanted to take commercial advantage of the reputation that famous trademarks have acquired worldwide. Secondly, third parties have been misappropriating those marks with the objective of re-selling them to their true owners and profiting from this. This activity has become common practice since 1990 when a new policy aiming to open up the market to foreign

imports and to foster foreign direct investment was adopted.

In this context, the Rover Case is a very interesting example for consideration. Rover planned to venture into the Brazilian market with initial production of 18,000 cars a year from 1993. However, its plans have been setback by trademark problems. A local dealer of imported cars has misappropriated the mark after realising that the Rover Group had not used its mark for more than two years. The INPI initially granted trademark protection to the local dealer. However, faced by the political change in the government in favour of market liberalisation, the INPI has revised its decision. Both parties are, at the moment, arguing about their rights in the Brazilian Federal Court. This case has been dragging on for more than 2 years. Consequently, the suggestion that the lack of trademark protection hinders the entry of foreign investment is strongly supported by the Rover Case.

Nevertheless, as has been shown, the Brazilian government has recently realised that the required technology and investment to upgrade its economy will not be obtained if there exists an inappropriate climate for direct foreign investment. The government has committed itself to improving the environment and to removing the existing obstacles. The improvement of proprietary rights, especially intellectual property, and the new liberal rules on technology transfer have been important actions taken by the government. Accordingly, the government revoked the Normative Act n.15/75. In addition, it issued, through the INPI, new rules relating to technology transfer contracts, called Resolution n. 22/91. The main change affected by Resolution n. 22/91 has been the significant reduction of state interference in such contracts. The parties do not have to comply with the excessive legal requirements imposed by the Normative Act n. 15/75. They are now allowed to negotiate clauses requiring secrecy and tie-ins. Such changes can be regarded as a significant improvement.

However, given the economic need for cutting edge technology, fierce international competition and the existing favourable climate for reforms which now exists in Brazil,

the extent of the changes in the law concerning technology transfer could have been much greater. Resolution n. 22/91 has not eliminated all state interference in technology transfer contracts. It still contains a few clauses that are similar to Normative Act n. 15/75. An example is the fact that important elements such as royalty rates, are still decided by the INPI. In addition, the INPI plays a strong role in regulating technology transfer. Compulsory registration with the INPI is still indispensable for a contract to have any legal effect. Moreover, the INPI's power has not been limited to the approval and registration of technology transfer contracts. According to art. 17 of the Resolution, the INPI may, following registration, help the licensee to negotiate the provisions of the contract. Moreover, it can supervise the licensee's absorption of the technology.

The existing provisions in Resolution n. 22/91 highlights the difficulties the government is having in breaking free from the old state interventionist culture that has discouraged technological modernisation of the industrial sector and exacerbated the problems of Brazil's economic isolation from the international market.

It would have been much better if the government had followed the Mexican example. The recent Mexican law on intellectual property simply revoked the previous technology transfer regulations. There was no re-enacting of any complementary regulations.

Resolution n. 22/91 does not provide the needed incentive for foreign companies to license new technology, especially where urgently required. It is always very important to remember that there exists fierce competition in the international market for cutting edge technologies. Companies from countries where legal barriers to technology transfer have been eliminated have an advantage.

The Brazilian government's response, as an attempt to improve the climate for foreign investment, has been the presentation of a draft bill to the Brazilian Parliament proposing new rules on intellectual property.

The main changes are threefold:

(1) Extension of patent grants to areas previously prohibited. In the case of biotechnology, the draft is regarded as very liberal. It allows the patenting of biotechnological inventions and provides special protection for plants and animal varieties. One interesting point has been the prohibition on patents for genetic material. However, this is not regarded as a negative point. There has been strong opposition in the Parliament against the patentability of such biotechnology for ethical and political reasons. The fact that the patentability of genetic material is left out of the discussion prevents the controversy surrounding the issue affecting the securing of legal protection for biotechnology generally;

(2) Patent term. The draft provides for a similar duration as in the developed countries: 20 years for inventions, 15 years for utility models, 10 years for industrial designs;

(3) Incentives for foreign companies to establish manufacturing in Brazil or to license their technologies. In this respect, the draft bill has created the possibility of enlarging the patent term for a further three years when the object of the patent is licensed to a Brazilian firm, or where the owner of the technology enters into joint-venture agreements with domestic Brazilian companies. Also, with regard to the working requirement, the draft bill emphasises the need to manufacture the object of the patent in Brazil. However, this is effected without commercially overburdening the patentee, especially foreign companies. Importation is a fulfilment of this requirement in certain circumstances. This provision is a clear sign of the government's commitment to foster foreign direct investment.

Nevertheless, there are a series of provisions that can undermine the improvements made by the draft bill and the incentives it gives for foreign investment. Firstly, a patent related to drugs can be nullified if regarded essential by the WHO. This can affect patentees in the pharmaceutical and biotechnological areas. Secondly, as we saw in section 4.5.2.4, loopholes exist in the part of the bill which relates to rights of the patentee. One example of this is the technical imprecision of the provisions relating to the use of a

patent by third parties for technological research purposes. Thirdly, parallel importation without the patentee's consent is allowed. Fourthly, inadequate protection is given to foreign trademarks, especially regarding the reality of the international market. Fifthly, the INPI's powers to regulate and interfere in technology transfer contracts is preserved.

These provisions go against the positive changes made by the draft with regard to the existing policies of enhancing foreign investment and technology transfer. Nevertheless, it is believed that the draft bill when passed into law will be a positive step to forward encouraging foreign direct investment. The main reasons are:

(1) It provides an adequate period for patent exploitation according to international standards;

(2) It broadens the number of areas for which patent protection will be available. It provides protection to almost areas;

(3) It eliminates provisions that permit expropriation of patentee rights for "national security" reasons. In the draft bill, there are only exceptional situations where the patentee will lose, only temporarily, the control of his patent;

(4) It relaxes the obligation to exploit a patented invention in the market by establishing a series of exceptions to the working requirement;

However, in relation to the protection of foreign marks, it believed that foreign investment will largely be conditioned by the INPI's and Court's interpretations.

Further Work

Throughout this study of the impact of intellectual property protection on the inflow of foreign technology and investment, it was realised that some points could be further discussed and developed. However, due to the limitations of time and materials available, this thesis has necessarily had a limited scope. The following research might be undertaken:

(1) An in-depth study of Brazilian protection of know-how and confidential information. It is noticeable that in some areas of research domestic Brazilian firms, universities and foreign companies have kept their discoveries secret. Has the Brazilian trade secrets law influenced them in adopting such measures? Is the Brazilian trade secrets law comprehensive and adequate?

(2) A study of the development of the legal protection given to biotechnology in Brazil after the enactment of the draft bill. This might be done by comparing the existing protection in the countries of the European Community, in the United States and in countries with a similar level of economic development and patent protection, such as Argentina and Mexico.

(3) An in-depth analysis could be made of the lack of special courts dealing with intellectual property disputes in Brazil and the enforcement of patentees' rights;

(4) An in-depth analysis of the courts' attitude towards protecting foreign trademarks in the light of the new rules on trademarks, the deepening of trade liberalisation and the consequent availability of international advertising information to local consumers;

(5) A study of the economic, political and legal consequences in case the draft bill is not enacted by the Parliament.

Although the impact of the intellectual property law on foreign direct investment was considered in relation to the legal, economic and political conditions found in Brazil, it is believed that the findings and insights of this thesis may help illuminate similar problems relating to intellectual property and economic development in other jurisdictions. This is the case especially in relation to developing countries where the adoption of desired industrialisation policies have been constantly followed by economic and social imbalances, political misunderstandings and prejudices based on nationalistic sentiments.

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