



Competition Commission of India



AN ECONOMIC ANALYSIS OF THE PATENT RIGHTS ASSIGNMENT IN INDIA

Research paper

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Introduction

It is a generally accepted principle that competition is desirable. Cost efficiency, low prices and innovation are the direct outcomes of competition. Competitive market leads to a higher consumer welfare in short run as well as in the long run as compared to markets that are not competitive. Therefore market intervention is not required in such situations. Conversely, it is generally believed that monopolies are bad for consumer welfare and should therefore be regulated in order to protect the interests of consumers.¹

Competition policy has never before had the prominence that it enjoys today. The fundamental battle of principles between state control on one side and free market on the other side has for the time being been decided in the favour of the market. In a short period of time, the number of competition law regimes in the world has grown enormously: there are approximately one hundred systems of competition law in existence today, and more are planned. In the recent past economic activities that were performed by the state or by the entities granted monopoly rights have now been opened up to competition.

The way in which business is conducted has been changed profoundly by the technology. Opening up of the international markets has led to mergers of great size in many countries. Cartels have been discovered that had global scope, for example in vitamins and in graphite electrodes the competition authorities has ensured the deterrence of such cartels. Many people have been drawn into the competition law and policy as a consequence of the developments around the world. Competition law and policy which was until an exclusive subject familiar to a small group of people has now expanded significantly.

One of the most discussed subject matter of Competition policy are Intellectual Property Rights (IPRs). We now look into Competition policy in the context of IPRs by giving an introduction to them.

¹ Simon Bishop and Mike Walker, “The Economics of EC Competition Law: Concepts, Application and Measurement”, 2nd edition.



Intellectual property rights

Intellectual property is a term referring to a number of distinct types of creations of the mind for which property rights are recognised and the corresponding fields of law. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary, and artistic works; discoveries and inventions; and words, phrases, symbols, and designs. Intellectual property rights are the recognition of a property in an individual creation to avoid the free-rider problem.² Intellectual property rights are usually limited to non-rival goods, that is, goods which can be used or enjoyed by many people simultaneously – the use by one person does not exclude use by another. This is compared to rival goods, such as clothing, which may only be used by one person at a time. For example, any number of people may make use of a mathematical formula simultaneously.

Since a non-rival good may be simultaneously used (copied, for example) by many people (produced with minimal marginal cost), monopolies over distribution and use of works are meant to give producers incentive to create further works. The establishment of intellectual property rights, therefore, represents a trade-off, to balance the interest of society in the creation of non-rival goods (by encouraging their production) with the problems of monopoly power. Since the trade-off and the relevant benefits and costs to society will depend on many factors that may be specific to each product and society, the optimum period of time during which the temporary monopoly rights should exist is unclear.

Some critics of intellectual property, such as those in the free culture movement, point at intellectual monopolies as harming health, preventing progress, and benefiting concentrated interests to the detriment of the masses, and argue that the public interest is harmed by ever expansive monopolies in the form of copyright extensions, software patents and business method patents. Other criticism of intellectual property law concerns the tendency of the protections of intellectual property to expand, both in duration and in scope.

We now look into the history of IPRs to get a clear picture of the evolution and the significance of IPRs.

² Free rider essentially refers to the person who enjoys the benefits of a commodity without paying anything for that. If a new idea is freely appropriable by all on the condition of existence of communal rights to new ideas, incentives for developing such ideas will be lacking. The benefits derived from these ideas will not accrue to the inventors. If the inventors are provided some private rights then new ideas will come forth more rapidly.



Chapter 1

History of IPRs

The Uruguay round:

It took seven and a half years, almost twice the original schedule. By the end, 123 countries were taking part. It covered almost all trade, from toothbrushes to pleasure boats, from banking to telecommunications, from the genes of wild rice to AIDS treatments. It was quite simply the largest trade negotiation ever, and most probably the largest negotiation of any kind in history. At times it seemed doomed to fail. But in the end, the Uruguay Round brought about the biggest reform of the world's trading system since GATT was created at the end of the Second World War. And yet, despite its troubled progress, the Uruguay Round did see some early results. Within only two years, participants had agreed on a package of cuts in import duties on tropical products — which are mainly exported by developing countries. They had also revised the rules for settling disputes, with some measures implemented on the spot. And they called for regular reports on GATT members' trade policies, a move considered important for making trade regimes transparent around the world. The WTO replaced GATT as an international organization, but the General Agreement still exists as the WTO's umbrella treaty for trade in goods, updated as a result of the Uruguay Round negotiations. Many of the Uruguay round agreements set timetables for future work. Part of this "built-in agenda" started almost immediately. In some areas, it included new or further negotiations. In other areas, it included assessments or reviews of the situation at specified times. Some negotiations were quickly completed, notably in basic telecommunications, financial services. The agenda originally built into the Uruguay Round agreements has seen additions and modifications.

TRIPS:

The WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), negotiated in the 1986-94 Uruguay round, introduced intellectual property rules into the multilateral trading system for the first time. Many products that used to be traded as low-technology goods or commodities now contain a higher proportion of invention and design in their value – for example brand named clothing or new varieties of plants. Creators can be given the right to prevent others from using their inventions, designs or other creations – and to use that right to negotiate payment in return for others using them. These are "intellectual property rights". The extent of protection and enforcement of these rights varied widely around the world; and as intellectual property became more important in trade, these differences became a source of tension in international economic relations. New internationally-agreed trade rules for intellectual property rights were seen as a way to introduce more order and predictability, and for disputes to be settled more systematically.



The Uruguay Round achieved that. The WTO's TRIPS Agreement is an attempt to narrow the gaps in the way these rights are protected around the world, and to bring them under common international rules. It establishes minimum levels of protection that each government has to give to the intellectual property of fellow WTO members. In doing so, it strikes a balance between the long term benefits and possible short term costs to society. Society benefits in the long term when intellectual property protection encourages creation and invention, especially when the period of protection expires and the creations and inventions enter the public domain. Governments are allowed to reduce any short term costs through various exceptions, for example to tackle public health problems. And, when there are trade disputes over intellectual property rights, the WTO's dispute settlement system is now available. The agreement covers five broad issues:

1. how basic principles of the trading system and other international intellectual property agreements should be applied
2. how to give adequate protection to intellectual property rights
3. how countries should enforce those rights adequately in their own territories
4. how to settle disputes on intellectual property between members of the WTO
5. Special transitional arrangements during the period when the new system is being introduced.

The TRIPS Agreement has an additional important principle: intellectual property protection should contribute to technical innovation and the transfer of technology. Both producers and users should benefit, and economic and social welfare should be enhanced. The basic principle on which TRIPS is based are the National treatment principle wherein imported and locally-produced goods should be treated equally — at least after the foreign goods have entered the market. The same should apply to foreign and domestic services, and to foreign and local trademarks, copyrights and patents. National treatment only applies once a product, service or item of intellectual property has entered the market. Therefore, charging customs duty on an import is not a violation of national treatment even if locally-produced products are not charged an equivalent tax. The other principle is the Most Favoured Nation wherein countries cannot normally discriminate between their trading partners. Grant someone a special favour (such as a lower customs duty rate for one of their products) and if it is done then you have to do the same for all other WTO members. Some exceptions are allowed. For example, countries can set up a free trade agreement that applies only to goods traded within the group — discriminating against goods from outside. Or they can give developing countries special access to their markets. Or a country can raise barriers against products that are considered to be traded unfairly from specific countries. And in services, countries are allowed, in limited circumstances, to discriminate. But the agreements only permit these exceptions under strict conditions. In general, MFN means that every time a country lowers a trade barrier or opens up a market, it has to do so for the same goods or services from all its trading partners - whether rich or poor, weak or strong.



Types of IPRs:

There are three main types of IPRs i.e. patents, trademarks and copyrights³. Where patents are used to protect new product, process, apparatus, and uses providing the invention is not obvious in light of what has been done before, is not in the public domain, and has not been disclosed anywhere in the world at the time of the application. The invention must have a practical purpose. Registration provides a patentee the right to prevent anyone making, using, selling, or importing the invention for 20 years. An issue that has arisen recently is how to ensure patent protection for pharmaceutical products does not prevent people in poor countries from having access to medicines — while at the same time maintaining the patent system's role in providing incentives for research and development into new medicines.

Trademarks refer to a symbol used to provide a product or service with a recognisable identity to distinguish it from competing products. Trademarks protect the distinctive components which make up the marketing identity of a brand, including pharmaceuticals. They can be registered nationally or internationally, enabling the use of the symbol ®. An unregistered trade mark is followed by the letters ™. This is enforced in court if a competitor uses the same or similar name to trade in the same or a similar field.

Copyrights are used to protect original creative works, published editions, sound recordings, films and broadcasts. It exists independently of the recording medium, so buying a copy does not confer the right to copy. Limited copying without permission is possible, for e.g. for research. An idea cannot be copyrighted, just the expression of it. Nor does copyright exist for a title, slogan or phrase, although these may be registered as a trade mark. Copyright is not registrable because it arises automatically on creation.

Some people confuse patents, copyrights, and trademarks⁴. Although there may be some similarities among these kinds of intellectual property protection, they are different and serve different purposes. The copyright protects the form of expression rather than the subject matter of the writing. However Trademark rights may be used to prevent others from using a confusingly similar mark, but not to prevent others from making the same goods or from selling the same goods or services under a clearly different mark. The patents on the other hand refer to the right to exclude others from making, using, offering for sale, or selling the invention. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing.

³ From a text prepared by Veronica Lowe, EGA Board Member (Mayne Pharma)

⁴ Excerpted from general information concerning Patents, U.S. Patent and Trademark Office website.



Chapter 2

Patent rights

‘Patent’ is a grant made by a government to an inventor, conveying and securing him the exclusive right to make, use and sells his invention for a term of 20 years. It is granted for an invention which is new and useful. This right is available for a limited period of time. However, the use or exploitation of a patent may be affected by other laws of the country which has awarded the patent. The law relating to patent is governed by The Patents Act, 1970. Before discussing The Patents Act in India we first define the following important features of the patents:

1. Patents are granted only for an invention which is new and useful i.e. the two aspects of novelty and utility⁵ must be present.
2. Patents are used to achieve commercial advantage in the market by the patentee.
3. Patents protect the patentee from competition while the competition law in an economy ensures competition. Therefore the two do not complement each other rather patents are an exception to competition.⁶
4. Patent is a private property therefore the patentee can grant licences to others to exploit the patent and to make use of it in return for royalty.
5. Patents are available on both products and processes i.e. method of producing a product.

The Patents Act, 1970:

Governs the entire law relating to patents in India⁷ i.e. the assignment, problems, procedures etc. The Act consists of 23 chapters and 163 sections. This Act which was passed in 1970 was amended in 1974, 1985, 1999, and 2002. This Act was considered to be incomplete when it came to the enforcement of patent rights of foreign players as well as the domestic players. The sector where the patents rights enforcement failed was the pharmaceutical sector because till recent only the process could be patented and not the product while in other countries the Pharma products could/can also be patented. The above factors as well as the fact that India was a signatory to the TRIPS agreement was related to granting of patents in pharmaceutical and agrochemical products led to the passing of The Patents Act, 2002 which met the international standards regarding the safety of the patent rights but it was however on 1st

⁵ Rama Sarma, “Commentary on Intellectual Property law”, chapter 1

⁶ See Competition Act, 2002 section 3(5) (i)

⁷ Rama Sarma, “Commentary on Intellectual Property law”, chapter 1



January, 2005 that the provisions for granting product patent in all fields of Technology including chemicals, food, drugs & agrochemicals was introduced.

The main features of The Patents Act, 1970 are:

1. Deals with the law relating to patents.
2. The act consists of provisions like compulsory licensing and governmental use to restrict the patent abuse.
3. Section 3 of the Act contains the inventions which are not patentable.
4. The process of application for the registration of a patent is dealt with chapters 3, 4, 5, 6 and 8.
5. Section 63 of the Act specifies the provisions for the surrender of a patent.

It has been observed that for an invention to be properly commercialized it should be protected by patents, an inventor instead of applying for a patent can keep his/her work as a secret but in the current scenario where it is difficult to keep the technology/process as a secret because of increased globalisation and interdependence the inventor may not be able properly commercialise the product as cheap substitutes may be made available if the inventor is not able keep his/her work as a secret. It is because of this reason that patents as an effective tool of commercialisation are justified. The country which grants patents can take advantage of the patent system to improve its economic status.

There is a myth that patent covers only important technological inventions. However majority of the patents around the world are granted for small/minor inventions but which satisfy the novelty and utility criterion. Another myth is that once an inventor gets a patent, he/she can comfortably enjoy the fruits of increased commercialisation. This however is half the story because the final gains to the inventor depends on properly developing, producing and marketing the product.

If the invention is new and is productive there will be no difficulty in getting it patented, but under following circumstances the patent may not be granted:

1. If the provisions of the Indian Patents Act are violated or if the invention is not patentable under the Patents Act.
2. If the novelty of the invention is destroyed because of the discovery of a similar such invention in the past.
3. If the invention is not unique i.e. it was anticipated.



It needs to be understood that the idea itself cannot be patented it is however the manner in which the idea is used which can be patented. The patentable subject matter includes:

1. Products: this includes alloys, pharmaceutical compositions, chemical compounds, polymers synthetic materials mixtures of chemicals etc.
2. Processes: this includes processes of moulding articles, preparing chemical compounds, compositions of matter etc.
3. Machines: this includes all kinds of machinery, assemblies and apparatus etc. that have moving parts.
4. Devices: this includes manufactured articles that perform a specific function but have no moving parts.

Both machines and devices fall under the category of products.

Monopolies and Restrictive Trade Practices Act, 1969:

After independence India followed policies based on “command and control” laws, rules, regulations and executive orders.⁸ The Act dealt with monopolistic trade practices, restrictive trade practices and unfair trade practices that hampered competition in the markets, it was designed to avoid economic concentration in the markets. Promotion of economic growth with efficiency was the main object of the Act. An interesting feature of the statute is that it covers fields of production and distribution of both goods and services.

When economic reforms were introduced in India in 1991, the MRTP Act had become anachronism and the need for a new competition law was felt by the policy framers. Apart from the introduction of reforms what led to the evolution of Competition Act, 2002 was the absence of proper definitions to many activities which were essentially anti-competitive in nature like cartels, collusion etc. Along with this, the MRTP commission did not have proper resources with it to check anti-competitive practices in the market.

The replacement of the MRTP Act, 1969 by a new Competition Act was a natural outcome to liberalisation and opening upto competition. The new Competition Act was market based on free principles.

⁸ Abir Roy and Jayant Kumar(2008), “Competition Law in India” , Chapter 2



The Competition Act, 2002 primarily focuses on the following four areas:

Anti-competitive agreements:

Section 3 of the Act states that no enterprise or association of enterprises or person or association of persons shall enter into any agreement in respect of production, supply, distribution, storage, acquisition, or control of goods or provision of services, which causes or is likely to cause an adverse effect on competition within India.

Abuse of dominance:

Section 4 of the Act enumerates the following activities as an abuse of dominant position:

1. An enterprise which charges an unfair price in purchase or sale of goods or services.
2. An enterprise which restricts the supply of goods and services in the market.
3. An enterprise which indulges in rent-seeking behaviour.⁹
4. An enterprise its position in one market to enter into another market.

Combination regulation:

Combination as defined by the Act refers to mergers, amalgamation, acquisition and takeover. The Competition Commission of India (CCI) has the authority to investigate into the combination issues without any intimation by the parties involved it.¹⁰ The CCI can stop the parties from combining and in other cases it can facilitate the combination. The Act specifies various factors which need to be taken into account to determine whether a combination will have an adverse effect on competition within markets in India.¹¹

Competition advocacy:

The CCI has the power to influence the policies relating to curbing anti-competitive actions at the instance of the government.¹² However the Commission is required to take measures to create awareness regarding competition issues. The Commission can make recommendations to Central Government on impact of certain policies on the competition in the markets. The opinion of the Commission is not binding upon the Central Government in formulating the policy.¹³

⁹ Rent seeking behavior refers to a situation where huge amounts of money are spent by a firm to restrict the entry of other competing firms in the highly lucrative sector.

¹⁰ See the Competition Act 2002, sections 29-31.

¹¹ See the Competition Act 2002, section 20(4).

¹² See the Competition Act 2002, section 49(1).

¹³ See the Competition Act 2002, section 49(2).



Chapter 3

The Economics of The Competition Law

This section explains the reasons as to why the IPRs and patents in particular are an exception to the Indian Competition Act, 2002 i.e. the provisions of the Act are not applicable to IPR/patent holders, despite of their monopolistic nature and the section also explains what if patents in India were not an exception i.e. if they were made competitive, and then what would it lead to.

In the Indian context patents and Competition law have been antagonistic to one another because patents in general create monopolies that are time based while Competition law ensures/promotes competition i.e. it eliminates monopolies, and also the fact that patents grants the right of exclusion to the patentee while the Competition law ensures efficient allocation of resources.

We now seek to explain what are the reasons why patents in India are excluded from the Competition Act i.e. what is the rationale for patents in India. The reasons for exclusion of the patents may be listed as:

- Incentive to further Research and Invention¹⁴, grant of patent rights for products leads to further research and development by producers as they can market their patented product without the fear of somebody else duplicating their product and then underselling it in the market. Therefore the patentee's market power is not reduced by the existing or new competitors operating in the market.
- Patent is a public document and not a private document, in India patent is granted only if the inventor gives full details of his invention to the patent office and this leads to an increase in the common knowledge about a new product or a process and it also leads to economic development in the parent country if the patented invention leads to the development of other assets/products which are new and involve technically sound methods of production.
- Grants of patents and their further licensing leads to commercialization of invention/technology. A patent holder has the option of further licensing his rights to other entities which are in a better position to exploit the rights in a manner which will lead to a greater commercialization of technology.

¹⁴ See F.M. Scherer: "The Innovation Lottery, in expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society", pp 19-21



- Both patents and Competition law aim at market efficiency and maximizing consumer welfare which are achieved through efficient allocation of resources and application of cost minimizing/efficient methods of production. Therefore the two are similar in their final objectives but dissimilar in their approach to achieving it.
- Assignment of patent rights leads to both static efficiency and dynamic efficiency¹⁵ where static efficiency is essential for establishing a free market and dynamic efficiency refers to the development of new technology/products which results in socially desirable innovations.¹⁶ Granting patents ensure that the rewards for invention accrue to the inventor.
- Another justification for the assignment of patent rights comes from the Locke's 'theory of property'¹⁷. In this theory, Locke has described a state of nature in which goods are held in common through a grant from God. God grants this bounty to humanity for its enjoyment but these goods cannot be enjoyed in their natural state. The individual must convert these goods into private property by exerting labour upon them. This labour adds value to the goods. For this value addition, the individual should be rewarded by granting him certain proprietary rights in the goods.
- The marginal cost of the production of intellectual property goods is very low however huge amount are spent on research and development along with huge expenditure on the marketing of the product. Issuing patent rights allows the inventor to recover the huge costs of research and development incurred because the patent allows the patentee to remain as a sole supplier of the product. The absence of patents may lead to non-recovery of costs and hence no further incentive to incur huge research expenditures; it may also lead to dynamic inefficiencies in the market.
- Another justification for patents/IPRs come from the Joseph Schumpeter's theory of 'Monopolies Leading to Invention' wherein he has stated that monopolies were under a constant threat from the new more technologically advanced monopolies and the monopoly firm which did not innovate effectively/efficiently well will get replaced by new monopolies. Therefore a time based monopoly created by patents will lead to constant research and innovations by the patentee.

We now look into price discrimination as a direct consequence of issuing patents and look explore whether price discrimination increases or decreases welfare.

¹⁵ See Thomas F.Cotter: "The Procompetitive Interest in Intellectual Property Law".

¹⁶ See Robert Stoner: "Presentation at DOJ hearing on Competition and Intellectual Property law and policy in knowledge based economy, Intellectual Property and Innovation".

¹⁷ See also J.Locke, "Second treatise of the government", 3rd edition 1968



Patents and price discrimination:

Another issue regarding patents is that the patentee may indulge in price discrimination¹⁸ i.e. third degree price discrimination.¹⁹ As an important example, there is ongoing controversy about whether price discrimination by a patent holder is an illegal or socially undesirable exploitation of monopoly power. Ignoring the dynamic effects on incentives for innovation, third-degree price discrimination by patent holders can raise (static) social welfare. In fact, Pareto improvements may well occur. Welfare gains occur because price discrimination allows patent holders to open new markets and to achieve economies of scale.

Economic analyses of price discrimination emphasize two issues. First, price discrimination raises the patentee's profitability, which is the purpose of the patent grant. Second, price discrimination misallocates resources among purchasers and thus causes a decrease in social welfare.²⁰

An optimal social policy for patents and monopoly will maximize the net social benefit of encouraging innovation while incurring monopoly misallocations. One can view the case law as a series of attempts to find the boundaries of the optimal trade-off. For a particular behaviour, such as price discrimination, the question is whether the incremental gains from discrimination exceed the allocation costs incurred.²¹ The balancing test is a difficult one to implement. There is almost no agreement on how much investment is induced and what the resulting social payoff is from an increase in expected profit.

Even if price discrimination sometimes incurs net static welfare losses, policy discussions should be concerned with the efficiency of the trade-off between innovation incentives and static welfare losses. The pricing strategy under price discrimination is to charge different prices to different groups of customers, with prices inversely proportional to the demand elasticity.²² If there is no minimum profit, price should equal marginal cost in each market. To maximize the patentee's profit, however, the optimal prices are precisely those that an unconstrained third-degree price discriminator would charge. Some amount of price

¹⁸ "Price Discrimination and Patent Policy" RAND Journal of Economics Vol. 19, No. 2, Summer 1988 by Jerry A. Hausman and Jeffery K. Mackie-Mason

¹⁹ In third degree price discrimination, price varies by attributes such as location or by customer segment, or in the most extreme case, by the individual customer's identity; where the attribute in question is used as a proxy for ability/willingness to pay.

²⁰ Bowman (1973) believes that price discrimination should be encouraged because the net loss in allocative efficiency is small, while the gain in innovation incentives from higher profitability is significant (pp. 56, 112). Sullivan (1977) opposes price discrimination (at least sometimes), because no socially desirable gain is obtained by increasing the patentee's profits ex post, while the costs to consumers can be high. Baxter (1966) has opposed patentee price discrimination because of inefficiencies caused by charging different consumers different prices. See also Kaplow (1984).

²¹ This marginalist approach embodies certain assumptions about continuity and concavity of the social welfare function; more generally, the resulting policy should be examined as a whole for its global optimality.

²² A qualitatively similar condition holds for non-independent demands.



discrimination thus appears to be an efficient way to provide an innovator with a profit reward. Even if discrimination does not always yield the static welfare gains discussed earlier, it might be more efficient.

The casual notion that third-degree price discrimination is good for the monopolist but bad for the public is not true as a general proposition. Further, and quite important for a new product, declining marginal costs from scale and learning economies may be possible with increasing output. If discrimination opens new markets, such economies can increase the welfare gains. Scale economies also make it more likely that new markets will open with discrimination, thereby leading to welfare gains. Moreover, price discrimination with scale economies can yield Pareto improvements in multiple market situations, when new markets alone cannot.

Therefore we conclude that price discrimination by the monopolist leads to misallocation of resources and static inefficiencies; this however is more than made up by the dynamic efficiencies i.e. innovations that follow. The argument is in favour of patents because the benefits from dynamic efficiency are more than the losses due to misallocation of resources i.e. social welfare is more likely to increase. Thus, an optimal policy that trades off monopoly costs against the incentive effects of the patent reward should not disallow all price discrimination.

In the next section we take up the Product Cycle model put forward by, “Raymond Vernon”. We try to correlate the phases in the product life cycle with the patent regime in India.

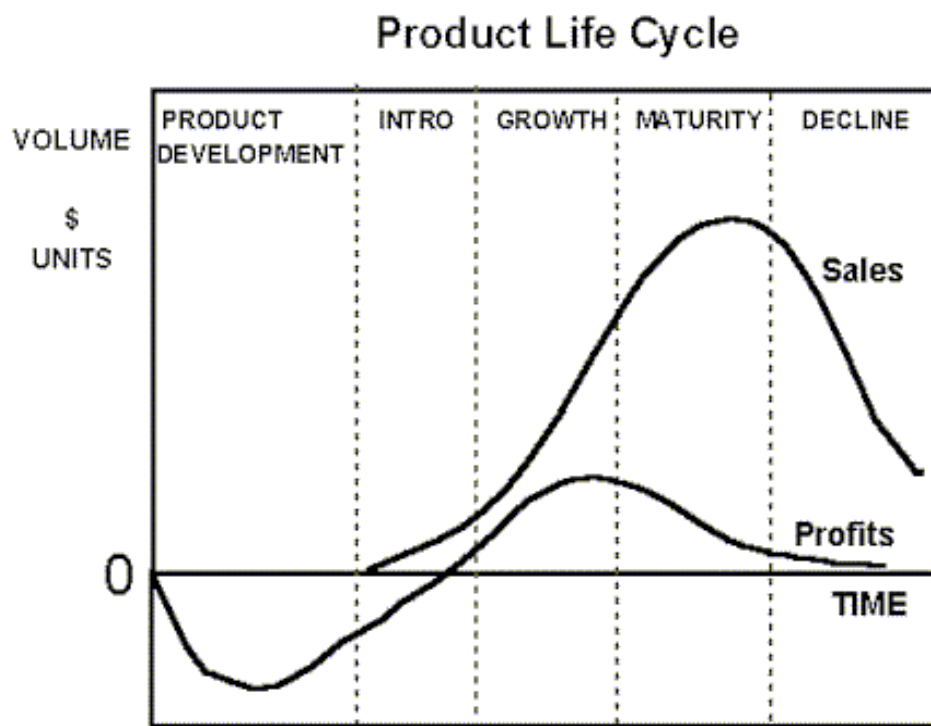


The product life cycle model:

Another argument in favour of the assignment of well defined patent rights is given by the product cycle model. All products and services have certain life cycles. The life cycle refers to the period from the product's first launch into the market until its final withdrawal and it is split up in phases. During this period significant changes are made in the way that the product is behaving into the market i.e. its reflection in respect of sales to the company that introduced it into the market. Since an increase in profits is the major goal of a company that introduces a product into a market, the product's life cycle management is very important. Some companies use strategic planning and others follow the basic rules of the different life cycle phase that are analyzed later.

The model consists of the five stages where in the first stage the innovating/developed country introduces a new product in the domestic market in the next stage the innovating country specialises in the production of the product and starts exporting it to other developing countries. In the third stage the developing countries start imitating the innovating country and starts producing the product by copying the technique adopted in developed countries. In the fourth stage the imitating country specialises in the production of the product and it then starts exporting the product to other countries. In the last stage of the model the innovating country starts importing the product from the developing country because the developing/imitating country has developed a cheaper process to produce the product and now it is less expensive for the innovating country to import the good from the developing country rather than producing itself.

The five stages can be showed diagrammatically as:



Source: William D.



Strategies that must be applied as soon as the phase of product life cycle is recognized are given in the table below:

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Competition	Almost not there	Early entry of aggressive competitors into the market	Price and distribution channel pressure	Establishment of competitive environment	Some competitors are already withdrawing from market.
Product	Limited number of variations	Introduction of product variations and models	Improvement – upgrade of product	Price decrease	Variations and models that are not profitable are withdrawn
Price Goal	High sales to middle men	Aggressive price policy (decrease) for sales increase	Re-estimation of price policy	Defensive price policy	Maintain price level for small profit

Source: Avlonitis G.

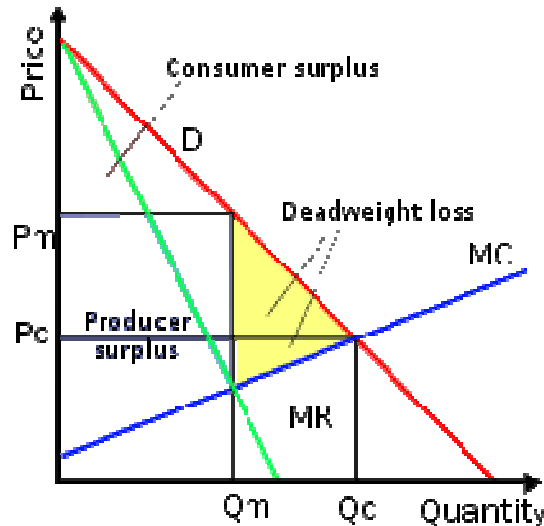
India and the Product Cycle Model:

The product cycle model and the stages involved in it can be related to the Indian economy. The Pharmaceutical sector in India till now allowed producers to apply for patents only on process but not on products. Indian players in the pharmaceutical sector imported medicines from other technologically advanced countries like US, the group of pharmaceutical companies in US known as The Pharma had claimed in the recent past that medicines that were exported from US to India were duplicated. The lack of protection for product patents in pharmaceuticals and agrochemicals had a significant impact on the Indian pharmaceutical industry and resulted in the development of considerable expertise in reverse engineering of drugs that are patentable as products throughout the industrialized world but unprotectable in India. As a result of this, the Indian pharmaceutical industry grew rapidly by developing cheaper versions of a number of drugs patented for the domestic market and eventually moved aggressively into the international market with generic drugs once the international patents expired. However the Patents Act, 2005 allows for patents on pharmaceutical and agricultural chemical products in India. The Act was in fulfilment of India's Commitment to World Trade Organization (WTO) on matters relating to Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS agreement).



The arguments in the preceding section highlight the importance of patents/IPRs. In this section we look at the drawbacks of granting patents/IPRs and making patents as an exception to the Competition Act, 2002. The negative consequences of assigning patents can be enumerated as:

- Assignment of patent rights creates monopoly where only one person produces and sells a particular product. Under these circumstances price is not equal to marginal cost i.e. $P \neq MC$ ²³ and this further leads to underproduction and hence deadweight loss.²⁴ The deadweight loss under monopoly can be showed as:



Source: Wikipedia

- It should be noted that patents and competition law promotes competition only at the equilibrium. If the two are not in equilibrium then assigning patents can lead to social costs.²⁵
- Another argument which does not support the assignment of patent rights and further creation of monopolies is given by Kenneth Arrow where he argues that a monopolist has no incentive to further innovate and produce new products.²⁶

²³ Marginal cost is the change in total cost that arises when the quantity produced changes by one unit. In general terms, marginal cost at each level of production includes any additional costs required to produce the next unit. In case of optimum efficiency, a producer should always produce the last unit if the marginal cost is less than the market price.

²⁴ Deadweight loss is a sort of inefficiency wherein wastage of resources takes place because of lesser production by the producer, even after having enough resources. In case of Intellectual Property, the patentee doesn't produce at an optimal level and therefore charges a higher price.

²⁵ Report by Federal Trade Commission: "To promote Innovation: The proper balance of patent law and policy".

²⁶ Kenneth J.Arrow: "Economic Welfare and the Allocation of Resources for Innovation, in the rate and direction of inventive activity: Economic and Social Factors".



- Patents on seeds, plants and parts of genes are seen not only as a driving force in the global concentration in the seed market and its takeover by agrochemical companies, but also as a severe restriction to access to plant genetic resources which are necessary for research and plant breeding and a precondition for securing world food. Because of the generally negative effects of patents in plant breeding, the UK Commission on Intellectual Property Rights explicitly advises developing countries to ban patents on plants and seeds.²⁷ A World Bank commissioned report presented in June 2006 strongly warns against intellectual property rights in agriculture becoming primarily a trade issue instead of a research and development issue aimed at increasing innovation in developing countries. Food security and rural development are cited as areas where the right to breeding is critical and should therefore not be hindered by patents.²⁸

- Farmers' organisations from around the world, breeders, UN institutions as well as development and environmental organisations have repeatedly raised major concerns about the increasing monopolisation of seeds and farm animals via patents over the last few years. The loss of independence and rising indebtedness for farmers, a reduction of plant and animal diversity, and ever higher constraints for breeding and research activities represent some of the most worrying impacts of this trend.

- As discussed above that patents confer a monopoly status on patent owners and there might be abuse of such monopoly status. Such abuse of dominance²⁹ is one of the major competition concerns, which may well beset our pharmaceutical industry with the introduction of our new patent regime. "Dominance refers to a position of strength which enables an enterprise to operate independently of competitive forces or to affect its competitors or consumers or the market in its favour. Abuse of dominant position includes imposing unfair conditions or price, predatory pricing, limiting production/market or technical development, creating barriers to entry, applying dissimilar conditions to similar transactions, denying market access, and using dominant position in one market to gain advantages in another market".³⁰

²⁷ UK Commission on Intellectual Property Rights, 2002, "Integrating Intellectual Property Rights and Development Policy", <http://www.iprcommission.org>

²⁸ http://siteresources.worldbank.org/INTARD/Resources/IPR_ESW.pdf

²⁹ Statutory provisions relating to abuse of dominant position:

□ Section 4, which prohibits the abuse of dominant position: "a position of strength, enjoyed by an enterprise in the relevant market in India, which enables it to (i) operate independently of competitive forces prevailing in the relevant market; or ii) affect its competitors or consumers or the relevant market in its favour."

Section 19, which provides for the procedural aspect of inquiry into the dominant position of an enterprise. Section 27, which mentions the orders, which may be passed by the Commission after inquiry into the practice of abuse of dominant position.

· Section 28, which concerns division of enterprise enjoying dominant position.

³⁰ Available at <http://www.cci.gov.in>



Licensing:

Issuing patent rights leads to licensing by the patentee which enables the license holder to start producing the product or make use of the new technique patented. Though licensing in India has been justified on the grounds of commercialisation of product patented what it ultimately leads to is anti-competitive practices in the market which as per the Competition Act, 2002 are prohibited. The licensing strategy by the patentee usually leads to:

- A tie-in arrangement where in if the inventor grants a license then the licensee may be required to acquire specific goods from the patentee itself which are unpatented and this is anti-competitive. The most discussed case was against Microsoft claiming that Internet Explorer was tied to Windows.
- A patentee may require the license holder to keep paying the royalty even after the patent has expired.
- A patentee may fix the prices at which the licensee should sell.
- A patentee may limit the amount of use by the licensee of the patented product and this may affect competition. In addition if there is undue restriction on the license holders business then this would be anti-competitive.
- A patentee may restrict the licensee's freedom to select a trade mark by imposing a trade mark requirement on the licensee.
- Firms in an industry may indulge in Patent Pooling³¹ by pooling their patents together and then not granting licenses to third parties and fixing quotas and prices. The firms may earn super-normal profits and keep new entrants out of the market.

The Competition Commission of India is empowered to inquire into any of the above mentioned activity being carried on in the market and impose penalties.

³¹ Patent Pooling is a restrictive practice, which does not constitute a part of the bundle of rights forming part of an IPR.



Chapter 4

The way forward

What is to be done?

Here we explore the possibility whether patents/IPRs will increase welfare or not if the patents are made competitive i.e. if patents are no longer an exception to the Competition Act. What we have observed so far is that the benefits from assigning patents i.e. technological progress, outweighs the drawback of non-competitive pricing. But what can be done to overcome the disadvantages associated with patents and what are the challenges facing India in this regard, is what we take up in this section.

Of the various measures that can be adopted to curb the patent exploitation, reducing the time period for which a patent is issued should be the preferred measure. If the time period is reduced then the patentee will enjoy the market power only for reduced time and hence the consumers' loss of welfare because of a high price will be avoided as the new competitors would enter the market as the patent expires. Patents in India and other WTO member countries are issued for a 20 yr period.

The problem arises when patents issued are invalid/unwarranted and its further abuse. It is clear that as long as one remains within the legitimate confines of a patent, there is a shield that precludes liability under the antitrust laws. There are, however, many instances where the conduct goes beyond the limits of patent protection and may be objected to under the antitrust laws. For example, if one initiates litigation seeking to enforce a patent that is known by the patentee to be invalid, such action can be an unlawful attempt to monopolize.³²

What should also be done is that the Patent office in India should reverse the burden of the proof on patent seekers by granting patents only to those capable of proving that:

- Their invention has social value
- A patent is not likely to block even more valuable innovations
- The innovation would not be cost-effective absent a patent.

³² “Patent misuse” in journal *JOM*, 44 (8) (1992), p. 54. by Arnold B. Silverman



Challenges to patent regime In India:

India enjoys several strengths amongst others developing and least developing countries, particularly, in case of the production of the food grains and drugs, and proudly hosts world cheapest Pharma industries. Even with these impressive facts, one billion Indians, spend the same amount on medical drugs per year as seven million men and women in Switzerland. The amount spent on drugs here in India roughly corresponds to the profit made by a single Pharma MNC “Novartis” in a typical year. These figures are enough to reflect the dying conditions of the public health services in India. It is now almost a well established fact that TRIPs provisions have already started affecting a person’s human right to access health services in India.

The Indian Patents (Amendment) Act, 2005 (The Act) introduced product Patents in India and marked the beginning of a new patent regime aimed at protecting the Intellectual property rights of patent holders.

As part of its WTO-TRIPS³³ regime obligations under Articles 70.8 and 70.9, India created the "mail-box" to withhold patent applications which had pharmaceutical products as a subject-matter. What was unveiled as a provisional measure was the transitional system of "Exclusive Marketing Rights" to ensure the interests of domestic manufacturers who mainly survived on off patenting and reverse engineering of patent able bulk drugs and formulations for a long time. In the last years of the regime, grant of two major yet controversial EMR's to Novartis and Eli Lilly showed how the entire system shook up the domestic manufacturer who waged a litigative battle in response to the first simulation of the post-product patent industry scenario in India. This not only lay threadbare as to how the grant mechanism was liberal, draconian and absolutist in the eyes of the Indian manufacturer. The focus which the policy makers lost in connecting quality control regulations with grant process of marketing rights was the bureaucratic red tape surrounding the operation of provisions in the Drugs and Cosmetics Act, 1940 and the way clinical trials were conducted in India.

Other major challenges facing Indian patent regime in particular in the pharmaceutical sector are:

1. **Generic drugs production:** When the mailbox applications are cleared and patents awarded, newly-introduced generics in the Indian market may have to be withdrawn. Secondly new drugs that emerge in the international arena will be available to Indian consumers only from the patent holder. The price charged in this case is very high.
2. **Rise in drug prices:** The general impression is that drugs which are under patents are expensive compared to generic products and once the product patent regime is in place, they will be unaffordable to the majority of Countries of the developing world and as a consequence their healthcare status will be seriously affected. High prices of patented drugs affect not only the consumers in developing countries, but also in the developed world. Therefore if the society wants new and better life-saving drugs, the

³³ Deepika M.G : “India and the WTO: The Development Agenda” .



3. **Competition from China:** Indian pharmaceutical industry is expected to face competition from the Chinese pharmaceutical industry as China is known for its cheap manufacturing capabilities. Chinese government has introduced several initiatives in providing boost to its pharmaceutical industry and there are trends indicating increased investments by global MNCs in the Chinese pharmaceutical sector. The reason for this is that China has a better data protection mechanism and a strong patent regime.

4. **Measures for promotion:** The several initiatives and measures taken by the Indian government for providing the required support, boost and encouragement for Indian pharmaceutical industry include: (i) permitting 100 % Foreign Direct Investment (FDI) for manufacture of drugs and pharmaceuticals provided the activity does not attract compulsory licensing (ii) tax incentives under the Income Tax Act, 1961 (iii) life saving vaccines exempted from excise duty (iv) clinical trial of new drugs exempted from service tax to make India a preferred destination for drug testing.

The new patent regime in India is likely to restrict access of allopathic medicines to only the affluent, affordable and more privileged class of people in India and other countries in the immediate future. The institutions which are concerned with the enforcement of the right to health and the enforcement of patent rights in India face daunting task to achieve social and economic objectives.



Chapter 5

Conclusion

It is an opportune moment for India and other developing countries to review and consolidate their strategies on intellectual property rights in the WTO. Recent developments relating to TRIPs have witnessed some important gains for developing countries. In the Doha WTO Ministerial, developing countries were able to ensure that a Declaration on TRIPs and Public Health was passed. India's domestic policy and international negotiations on one aspect of IPRs, patents, provides important lessons for formulating a comprehensive negotiating strategy on TRIPs. India's negotiating history shows that while trade threats were important in leading India to initiate changes in its policy globally; domestic level policy change took place only with the mobilization of a domestic constituency that favoured change. Support from developing countries, disunity among advanced nations and the role of NGOs were also factors that enabled India to promote its interests in the negotiations. India's position in the field of patents, in terms of patent applications reveals that few domestic firms have the capacity to transform potential into patent activity at least in the short-term. Policy and negotiating strategies must therefore focus on ensuring access for the majority. This potential for promoting India's interests exists currently for re-evaluating TRIPs. There is a strong domestic constituency that would benefit from linking the right to health with TRIPs. Support also exists from important developing countries and NGOs. In addition, there is disunity among advanced nations on these issues.

On the debate of abuse of patents it can be said that assignment of patents/IPRs in itself is not the problem, the problem arises due to non-enforcement of patent rights and lack of sufficient knowledge regarding patents. There are many myths surrounding patents in India which when discussed highlighted that patent abuse in India is largely due to the myths surrounding it. The conclusion on the choice whether patents should be made competitive or should they continue to be an exception to the Competition Act, 2002 is that the patents should continue to be as an exception to the Act because the benefits from assigning patents and giving monopoly rights to the patentee exceeds the benefits of charging a market price to the consumers by making patents competitive. Therefore for the overall welfare to increase it is essential that the patents regime in India is modified regularly and general awareness regarding patents and their proper use is increased by launching awareness oriented programmes, in addition to this proper management of patent right application should be ensured to avoid patent abuse.



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