

General Overview of Intellectual Property

PGDIPR-101

DIRECTORATE OF DISTANCE EDUCATION

SWAMI VIVEKANAND

SUBHARTI UNIVERSITY

Meerut (National Capital Region Delhi)





General Overview of Intellectual Property

PGDIPR-101

Self Learning Material



Directorate of Distance Education

**SWAMI VIVEKANAND SUBHARTI UNIVERSITY
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UTTAR PRADESH**

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industrial revolution and the rapid development made in the fields of science, technology and culture, new kinds of property came into existence". New rights and properties like patents, copyright and industrial designs, which came to be known as Intellectual Property Rights (IPRs) received attention due to their unique characteristics.

Intellectual property is so broad that it has many aspects. It stands for groupings of rights which individually constitute distinct rights. However, its conception differs from time and it to time. It is subject to various influences. The change in information technology, market reality (globalization) and generality have affected the contents of intellectual property. For instance, in olden days because of religion creation of life, say plants or animals were not protected. Thus, defining IP is difficult as its conception changes. It is diverse, challenging and has application in own day today life.

IP is a section of law which protects creations of the mind, and deals with intellectual creations. Is it a workable definition? It is also commonly said that one cannot patent or copyright ideas. Intellectual property, as a concept, "was originally designed to cover ownership of literary and artistic works, inventions (patents) and trademarks". What is protected in intellectual property is the form of the work, the invention, the relationship between a symbol and a business. However, the concept of intellectual property now covers patents, trademarks, literary and artistic works, designs and models, trade names, neighboring rights, plant production rights, topographies of semi conductor products, databases, when protected by a *sui generis* right, unfair competition, geographical indications, trade secrets, etc.

Those types of intellectual property have been characterized as "pieces of information which can be incorporated in tangible objects at the same time in an unlimited number of copies at different time and at different locations anywhere in the world". In other words, intellectual property rights are intangible in nature, different from the objects they are embodied in. The property right is not in those copies but in the information which creates in them.

In today's world, the international dimension of intellectual property is of ever increasing importance for three compelling reasons. First, the composition of world trade is changing. Currently, commerce in intellectual property has become an ever greater component of trade between nations. The value of information

products has been enhanced greatly by the new technologies of the semiconductor chip, computer software and biotechnology. Second, the world commerce has become even more interdependent, establishing a need for international cooperation. No longer can a single country impose its economic will on the rest of the world. Accordingly, countries have recognized this interdependence and have called for a broadening of international agreements/arrangements involving intellectual property. Third, new reprographic and information storage technologies permit unauthorized copying to take place faster and more efficiently than ever, undermining the creator's work. There is a general feeling in the developed countries that much of this sort of copying takes place in the third world due to the relaxation of legal standards. All these factors have prompted the international community as a whole to accord due recognition to intellectual property and intellectual property regime.

Thus, the above reasons widen the scope of intellectual property rights. Among the bundles of intellectual property rights, copyright that deals with the protection of literary, artistic and scientific works is one.

1.2 The Concept of Intellectual Property

Intellectual property, very broadly, means the legal property which results from intellectual activity in the industrial, scientific and artistic fields. Countries have laws to protect intellectual property for two main reasons. One is to give statutory expression to the moral and economic rights of creators in their creations and such rights of the public in access to those creations. The second is to promote, as a deliberate act of government policy, creativity and the dissemination and application of its results and to encourage fair trading which would contribute to economic and social development.

Generally speaking, IP law aims at safeguarding creators and other producers of intellectual goods and services by granting them certain time limited rights to control the use made of those productions. These rights do not apply to the physical object in which the creation may be embodied but instead to the intellectual creation as such. IP is traditionally divided into two branches: "industrial property and copyright". The convention establishing the World Intellectual Property Organization (WIPO) concluded in Stockholm on July 14,

There are various jurists and thinkers who support the concept of IPR. John Locke (1632-1704) was, perhaps, the first jurist who strongly presented his views in favour of IPR. Salmond was also a great supporter of the concepts of IPR. On studying about the juristic opinions in favour of IPR theory, it seems that there are, basically, two different thoughts exist, on which the concept of intellectual property rights stands.

2.3.1. A person has a property in his life and personality

The first logic in favour of intellectual property rights is that a person's life and personality is his own property, consequently, he has the proprietary rights over the things which belong to his personality.

The seeds of this thought can be traced in the views of John Locke, Hobbs and of Blackstone. John Locke was of the view that *every man has a property in his own person and he has the right to preserve his property, that is, his life, liberty and estate.*

The connection between this thought and the concept of intellectual property right is that the human mind, intellect, and skill are included in his personality. Again, a person's personality reflects in his thoughts and his works, which are the sub-matter of intellectual property. Thus, the products of human mind or intellect are the property of the person concerned.

2.3.2. The Creator should be the Owner of which he Creates

This is one of the most strong and most reasonable logic in the favour of IPR theory. The reflection of this thought can be found in the views of Salmond, and to the some extent, of the Karl Marx. But, Marx emphasizes on the human labour rather than human intellect. So, his views in this reference are not as relevance as of the Salmond.

The concept of IPR can be better understood in the following words of Salmond:

"The only immaterial things which are recognised by law, as the subject matter of 'rights in re-properia in immaterial things', are the various immaterial products of human skill and labour. Speaking generally, we may say that in modern law every man owns that which he creates. That which he produces is his, and he has an exclusive right to the benefit of it. The immaterial product of a man's brain may be as valuable as his

land or his goods. The law, therefore, gives him a proprietary right in it, and the unauthorised use of it by other person is a violation of his ownership, not less than theft or trespass is”.

Thus, the above mentioned thoughts about intellectual property rights show that the concept of IPR has a strong philosophical base. But, these thoughts represent just one aspect of the concept i.e., individual interest but, what of the social interests? The concept of IPR, in fact, deals with both aspect of the coin i.e., individual interest as well as social interests.

The subject matter, which is protected under the IPR protection, is widely important in the development of society. So, it was necessary to assure that the societal interest would also be preserved along with the individual interest. On this point the Bentham's utilitarianism was came in the force and the theory of balancing of interests was found a place in the concept of IPR. As the inevitable result of it, the interests of individual have been restricted and a time limit for the protection of intellectual property rights has been prescribed. On the end of this time-limit, no barrier remains to restrict the society from dealing with the subject matter concerned.

2.4 History and Development of Intellectual Property Rights

With the development of human race, there have various new concepts, principles, inventions and cultures emerged on the canvas of earth. The concept of intellectual property rights is one of them, which takes birth as a collective effect of two growing up cultures of the time i.e. the culture of commoditization and the industrial culture.

In the 19th century, when the industrialization was on the peak; great scientific inventions and technical development were taking place; distinctive forms of art, expression and entertainment were emerging; and various new theories were developing in all fields of knowledge. At the time, a necessity for an international law or regulatory force have been felt (in international arena) to promote such activities by protecting the rights of concern persons. Accordingly, in year 1883, the first International Convention for the Protection of Industrial Property, popularly known as 'Paris Convention', was adopted. Similarly, in year 1886, another International convention i.e. Berne convention for the Protection of Literary and Artistic works was adopted. This was the initiative phase for the

In year 1967 an International convention called convention establishing the World Intellectual Property Organization, popularly known as WIPO Convention, was adopted. WIPO plays a vital role in promotion and protection of intellectual property rights.

Patent Cooperation Treaty 1970 :-

The Patent Cooperation Treaty is basically, an agreement under the Paris Convention. The treaty has made various important provisions in relation to grant of patent. The most significant provision of the treaty is the provision for international filing of application for patents.

Washington Treaty on Intellectual Property in Respect of Integrated Circuits, 1989

The Washington Treaty recognises the intellectual property rights related to original layout designs of integrated circuits. The treaty obliges the contracting states to secure the protection of such rights as well as to provide national treatment to the citizens of other contracting states.

Convention on Biological Diversity, 1992 :-

The United Nations Convention on Biological Diversity, commonly known as Rio earth summit, was signed at Rio de Janeiro on the 5th day of June, 1992. The convention mainly focuses on three issues i.e. (i) the conservation of Biological diversity; (ii) the sustainable use of its components; and (iii) the fair and equitable sharing of the benefits arising out of the use of the genetic resources.

Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), 1994 :-

The TRIPS agreement has been adopted to promote and protect the intellectual property rights; to reduce the impediments and distortions to international trade; and to ensure the measures and procedures to enforce intellectual property rights not to become barriers to the valid trade. Under the TRIPS agreement various general provisions and basic principles have been adopted in regard to intellectual property rights. The agreement obliged to member countries to ensure the proper and effective enforcement of intellectual property rights.

The above discussion on development of intellectual property rights in International arena shows that the International conventions and treaties play a role in this respect. All the basic principles, procedure and other related aspects etc. of IPR are determined by such International efforts. Considering the impact of such

International efforts, in respect of IPR, it may be said that the International treaties and conventions have been become a strong source of (domestic) law.

2.4.2. Development of IPR in India

India has adopted the concept of Intellectual Property Rights from western countries. This is very tough to trace an original concept like IPR in ancient India. India has been introduced to the concept of IPR by British regime. The development of IPR in India can be divided into two heads i.e. (i) development of IPR in British period; and (ii) development in independent India. A brief description of both times is given bellow:

Development of IPR in British Regime :-

Britishers were come in India for trade and business. Along with their traditions and culture, they brought their laws too in India, which influenced broadly, the Indian legal system. As soon as the Britishers captured the Indian legal and administrative system, they had begun to apply their laws on Indian Society. In addition to other substantive and procedural laws, the laws relating to intellectual property rights have also been imposed or enacted by the British rule in India. Such laws have been developed the concept of IPR in British India.

A brief summary of various laws related to intellectual property rights, which have been enacted or imposed in British period, may given as follows :

Copyright Protection:-

The first enactment on copyright protection in British India was the Indian Copyright Act, 1847, which was a replica of 1842 British Copyright Act. Later on, the British Copyright Act, 1911 was made applicable to India. The 1911 Act has been modified in 1914 and the Indian Copyright Act, 1914 was enacted. The Act of 1914 remained applicable in India even after one decade of the independence of India.

Development of Trademarks:-

The first trademarks Bill was introduced in Bombay Legislative council in year 1879. But, the bill was lapsed. In 1889 the Indian Merchandise Act, 1889 was enacted. Later on, in 1937 the Trade Mark Bill was formed and the Trademark Act 1940 was passed. The 1940 Act was replaced with Trade Mark and Merchandise Act after the independence of India in year 1958.

Patent Laws :-

In the case of such works, the author of the work generally has the exclusive rights under the copyright protection laws to do or authorize the doing of any of the following acts in respect of the work or any substantial part thereof namely :-

- (i) To reproduce the work ;
- (ii) To issues copies of the work to the public;
- (iii) To communicate the work to the public or perform it in public;
- (iv) To make any cinematograph Film or sound recording in respect of the work;
- (v) To make any translation or adaption of the work etc.

Copyright in artistic work :-

Likewise the literary, dramatic and musical work the author of original artistic work has the right to:

- (i) Reproduce the work in any material form including depiction in three dimensions of a two dimensional work or in two dimensions of a three dimensional work;
- (ii) To communicate the work to the public;
- (iii) To issue copies of the work to the public;
- (iv) To include the work in any cinematograph film;
- (v) To make any adaptation of work; etc.

Copyright in Computer Programme :-

The author of a computer programme has all the rights confer on the author of literary, dramatic or musical works. In addition of these rights, the copyright in computer programmes, gives the author, right to sell or given the programme on commercial rental.

Copyright in Cinematograph Film :-

The author of a cinematography film has the right to:

- (i) Make a copy of the film including a photography of any image forming part thereof;
- (ii) Sell or give on hire or offer for sale or hire, only copy of the film, regardless of whether such copy has been sold or given on hire on earlies occasions;
- (iii) Communicate the film to the public.

Copyright in sound recordings :-

Copyright in a sound recording confer on author right to:

- (i) Make any other sound recording embodying it,
- (ii) Sell or give on hire, or offer for sale or hire, any copy of the sound recording, regardless of whether such copy has been sold or given on hire on earlier occasions;
- (iii) Communicate the sound recording to the public.

Moral right protection under the copyright laws :-

In addition to the economic rights (as mentioned earlier) the author of a copyrighted work also have some non-economic right in his work, called one moral rights of the author. The copyright laws protect the both rights of the author. Moral rights are basically, of three types i.e. (i) Right to claim attribution of the work or (i.e. paternity right); (ii) right to restrain or claim damages in reference to any such alternation in the work, which would be prejudicial to the honour or reputation of the author (i.e. right to integrity); and, right to deny a false paternity of a work.

2.5.3. Some matters incidental to intellectual property rights

In addition of the earlier mentioned main subjects of IPR, there are also some incidental matters, which are deemed as the intellectual property rights. Such matters are, to the some extent, connected with; or come in, the ambit of IPR but not stand as strongly as others. A few examples of such matters are given below:

Protection of Geographical Indications :-

The protection of geographical indication is treated as a subject matter of IPR. Under this subject the geographical indication of the goods, originating in the territory of a country, or a region or locality in that territory, and some special quality, characteristic or reputation of such goods is attributable to its geographical origin, is protected. Such goods may be natural goods, or manufactured goods or agriculture one.

In case of natural and agricultural goods, the special quality, characteristics or reputation of the goods is generally attributable to the natural factors of the particular place. Such goods are not an outcome of human intellect and so can not be deemed the intellectual property of any person. This may so, though, in the in case of manufactured goods.

Another point is that unlike an owner of intellectual property the owner of geographical indication of natural goods or agricultural goods, has generally, no

developed in Venice. The momentum of development started in England with the importation and improvement in technology. As a result, the development of intellectual property law eventually shifted to England. By the eighteenth century, the Statute of Monopolies and the Statute of Anne had attracted attention from many countries, including the United States. These two famous English statutes, together with the Intellectual Property Clause of the United States Constitution and early French intellectual property laws, eventually became the models for intellectual property laws around the world, including many less developed countries and former colonies.

By the eighteenth century, most countries, in particular the colonial powers, had offered formal intellectual property protection to their nationals and resident aliens satisfying specified conditions. By then, industrial revolution had made impact on production process, transportation and communication. As cross-border markets developed and expanded, countries became concerned about the limited national protection and the virtually nonexistent international protection for foreign authors and inventors. Although foreign creators and inventors could obtain protection as resident aliens, this protection was woefully inadequate, due largely to antiquated law, technical objections, and the lack of an adequate private international law theory. Justice was often unreasonably denied, and the need for stronger international intellectual property protection therefore arose. In the copyright area, early international protection existed in the form of bilateral treaties, protecting authors and creative efforts through reciprocity provisions. By the late nineteenth century, a network of bilateral copyright conventions had been established among major European powers. Notwithstanding this treaty network, authors could expect very little uniformity in protection outside of their home countries. This lack of uniformity was complicated by the fact that the duration of a copyright treaty was sometimes tied to a broader commercial treaty and copyright protection would be deeply affected if the commercial treaties were revoked or renegotiated.

In the mid-nineteenth century, France issued the Decree of March 28, 1852, which unilaterally extended copyright protection to all works regardless of their country of origin which has improved France's copyright relations with other countries and accelerated the movement toward a multilateral copyright system. In 1858, authors and artists met at the Congress on Literary and Artistic Property in Brussels to discuss the international protection of author's rights. Three years later, a new

Congress was called in Antwerp to induce countries to adopt uniform legislation that would provide authors with the greatest possible protection. In 1877, artists met again in Antwerp to adopt a unanimous resolution to call upon the established Institute of International Law to draft a project of world law on the protection of artistic works.

2.8 Salient Features the Concept of Intellectual Property Rights

In common to the any other concept, the concept of intellectual property rights also possesses some specific characteristics or features. Such feature shows the actual construction of the concept. The main features of the concept of IPR can be described in brief under the following heads:

2.8.1 Protection of the application of human intellect not of the intellect itself

The concept of IPR protects the application of human intellect or skill and the economic benefits arising out of such application of intellect or skill. A person may have a bright intellect or a special skill but, he does not come in the ambit of IPR protection until he applies his intellect and skill practically. The IPR laws are in fact, for the protection of products of human intellect. The intellect itself is not a subject matter of IPR protection.

2.8.2 A Combination of Economic and Social Approaches

Generally it is said that the concept of IPR is just for economic or commercial purposes. But, this is not so. The economic or commercial concern is just one aspect of the coin; another aspect has the social concerns, which can be understood with a few examples:

- The trademarks laws not just protects the interest of traders but also protects the public frame description or confusion;
- The copyright protects the economic rights as well as the social image of the author under moral right protection.
- The patents are not generally given in contrast to public heath, security or morality;

Unit 3

Theories of IPR and its Jurisprudential Aspects

Objectives:

After going through this unit, you should be able to understand the jurisprudential aspect of intellectual property rights and will learn about the various theories of intellectual property rights.

Structure:

3.1 Introduction

3.2 A Lockean Justification

3.2.1 Locke's Property Theory

3.2.2 Labour and the Production of Ideas

3.2.3 The Avoidance View of Labour

3.2.4 The "Value-Added" Labour Theory

3.2.5 Labour and the Idea/Expression Distinction

3.3 Justification of IPR on the Basis of Various Theories of Property

3.3.1 The Natural-Law Theories

3.3.2 Metaphysical Theories

3.3.3 Historical Theories

3.3.4 Psychological Theories

3.3.5 Sociological Theories

3.4 The Modern theories for Justifications of Intellectual Property Rights

3.4.1 Natural Rights

3.4.2 Reward

3.4.3 Incentive Based Theories

3.5 Summary

3.6 Self-Assessment Test

3.7 Further Readings

3.1 Introduction

The awareness towards the self interests is the very nature of human being. A man always wants to own what he earns, acquires or creates. In this reference various protective measures have been applied from the very beginning of the society. The origin of state is one of the attempts made for the protection of interests of society. In the ancient society there were mainly two problems of living that is to say, the food, and the security. The responsibility of food arrangements and security has been given to the State. Since beginning the maintenance of state is dependent on society (concept of taxation) and the state protects the life and 'property' of the individuals.

Initially; the word 'property' described the belonging of a person which he earns or acquires by his labour. It included only the material objects such as, land. There was no concept of immaterial or incorporeal property. The fruits of physical labour were considered as the 'property' but, intellectual labour was generally ignored. The intellect of a person was deemed as a gift of nature use of which should be in the welfare of others and the whole society had a share in the intellectual products of a member of society. The concept of 'property' indicated that 'what belongs to whom' (particularly in reference to lands). The then concept of proprietary rights did assure to the persons that the fruits of your labour such as, your land, your food; will not be shackled from you but let the fruits of your intellect available for all.

In fact the concept of property emerged due to the natural needs of the developing society. The development of a society depends on the development of individuals. So this is essential for a society to protect the means of better living. The concept of property thus, maintains a system for the proper living and development of the society. 'Property' in its ancient form, covers a very little scope but, with the changing face of society, the concept of property has also been changed and now, it covers a very wide field. At present; in addition to the material objects; the immaterial objects (including rights) too come in the ambit of the concept of property.

The material and immaterial objects are the subject matter of property. The material objects may be movable or immovable but, always perceptible to the touch and sight such as, land, chattels car, books etc. whereas, the immaterial objects include the rights over a property (whether material or immaterial) and, the products of human skill or intellect. The branch of the proprietary jurisprudence,

which deals with the immaterial products of human intellect is known as the 'Intellectual Property Rights', and more particular as IPR. Under the concept of intellectual property rights, the products of human brain, intellect, and skill are recognised as the property of the person concerned.

Different jurists have different views about the concept of intellectual property rights. But, there are mainly two strong views in the favour of the IPR concept. The first vision focuses on the idea that a 'person has a property in his life and personality', so he should be given the proprietary right over the things which he produces by his personal or intellectual efforts. The second view, in this reference, is based on the thought that the 'creator should be given the ownership of which he creates by applying his labour, skill or intellect'.

The principles of proprietary jurisprudence, which are easily applicable to the basic concept of property; in reference to the intellectual property, it becomes very hard to apply. The concepts of possession and ownership; while applied on intellectual property become more complex. Similarly, the other basic theories of the proprietary jurisprudence are though made applicable in respect to the intellectual property, but in a modified version.

3.2 A Lockean Justification

For Locke, property was a foundation for an elaborate vision that opposed an absolute and irresponsible monarchy. For the Founding Fathers, Locke was a foundation for an elaborate vision opposed to a monarchy that was less absolute, but seemed no less irresponsible. Locke's theory of property is itself subject to slightly different interpretations. One interpretation is that society rewards labour with property purely on the instrumental grounds that we *must* provide rewards to get labour. In contrast, a normative interpretation of this labour theory says that labour *should* be rewarded.

3.2.1 Locke's Property Theory

The general outline of Locke's property theory is familiar to generations of students. In Chapter V of the *Second Treatise of Government*, Locke begins the discussion by describing 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, if in no other way than by allowing them to be enjoyed by a human being.

Locke proposes that in this primitive state there are enough unclaimed goods so that everyone can appropriate the objects of his labours without infringing upon goods that have been appropriated by someone else. Although normally understood as descriptive of the common, the enough and as good condition also is conceptually descriptive of human beings. In other words, this condition is possible because the limited capacities of humans put a natural ceiling on how much each individual may appropriate through labour. The enough and as good condition protects Locke's labour justification from any attacks asserting that property introduces immoral inequalities. Essentially the enough and as good condition is an equal opportunity provision leading to a desert-based, but on competitive allocation of goods: each person can get as much as he is willing to work for without creating meritocratic competition against others.

What justly can be reduced to property in this primitive state also is limited by Locke's introduction of the non-waste condition. This condition prohibits the accumulation of so much property that some is destroyed without being used. Limited by this condition, Locke suggests that even after the primitive state there sometimes can be enough and as good left in the common to give those without property the opportunity to gain it. Spain and America, he says, illustrate the continuing applicability of this justification of property. Until this point in his exposition, Locke does not explore the notion of labour and the desert it creates. His theory is largely a justification by negation: under his two conditions there are no good reasons for not granting property rights in possessions. This has led scholars such as Richard Epstein to a possession-based interpretation of Locke. Epstein argues that "first possession" forms the basis for legal title and believes that this is the heart of Locke's position. For Epstein, the talk of labour is a smokescreen hiding the fundamental premise of Locke's argument that a person possesses his own body.

Yet if that possession is good enough to establish ownership of self, then why is not possession of external things, unclaimed by others, sufficient as well? The irony of the point should be manifest. The labour theory is called upon to aid the theory that possession is the root of title; yet it depends for its own success upon

the proposition that the possession of self is the root of title to self. It is unclear why Epstein should reach this conclusion. Locke never mentions one's possession of one's body as the basis for one's property in one's body; he begins simply by asserting one's body is one's property. Yet Epstein connects property to possession by saying, "the obvious line for justification is that each person is in possession of himself; if not by choice or conscious act, then by a kind of natural necessity."

Epstein directly, albeit unknowingly, points out a critical difference: we are not in possession of any particular external objects by a kind of natural necessity. If we were, the need for property laws would be greatly diminished. Each person, like a tree, would be rooted to his own parcel of external objects; this would be of natural necessity, and no one would try to displace another from his natural and necessary attachments. Precisely because "natural necessity" goes no further than the mind/body link, reliance upon the possession of body as a foundation for a possession-based justification of property is a bit disingenuous. Epstein's possession-based theory also seems inaccurate because Locke offers a positive justification for property that buttresses his labour theory. He suggests that granting people property rights in goods procured through their labour "increases the common stock of mankind," a utilitarian argument grounded in increasing mankind's collective wealth.

This justification is called into question by an obvious problem. If the new wealth remains the private property of the labourer, it does not increase the common stock. If it can be wantonly appropriated by the social mob, the labourer will realize quickly that he has no motivation to produce property and increase the common stock. One solution would be to rely upon the labourer's donations to the common, but increasing the common stock cannot be made to depend on supererogatory acts. The better solution - one that Locke in fact advocated - is to make this added value potentially part of the common stock by introducing the money economy. In depicting the transition to a money economy, Locke assumes that:

- (1) the individual is capable of appropriating more than she can use;
- (2) the individual will be motivated to do so; and
- (3) nothing is wrong with this other than waste.

Locke condemned waste as an unjustified diminution of the common stock of potential property. To allow goods to perish after appropriating them and thereby

removing them from a state in which others could have made use of them violates “the Law of Nature.” Stripped of its Lockean vestments, this non-waste principle can also be understood as an impulse to avoid labour when it produces no benefits. The waste is not just spoiled food, but the energy used gathering it. The non-waste condition, however, allows the individual to barter for things which he can enjoy, which may be more durable, and which have been gathered as surplus by other individuals similarly motivated. Finally, Locke justifies the allocation of property in this more advanced money economy by tacit consent. For Locke, positive laws that manifest “disproportionate and unequal possession of the Earth” derive their authority from the tacit consent that people have given to be governed. Modern writers have debated how much importance should be put on this hypothetical consent. In the final analysis, Locke’s overall scheme for property can be viewed as an alloy of the labour and tacit consent theories. Yet it is the labour justification that has always been considered uniquely Lockean. We can justify propertizing ideas under Locke’s approach with three propositions: first, that the production of ideas requires a person’s labour; second, that these ideas are appropriated from a common which is not significantly devalued by the idea’s removal; and third, that ideas can be made property without breaching the non-waste condition. Many people implicitly accept these propositions. Indeed, the Lockean explanation of intellectual property has immediate, intuitive appeal: it seems as though people *do* work to produce ideas and that the value of these ideas especially since there is no physical component depends solely upon the individual’s mental work.

3.2.2 Labour and the Production of Ideas

A society that believes ideas come to people as manna from heaven must look somewhere other than Locke to justify the establishment of intellectual property. The labour theory of property does not work if one subscribes to a pure eureka theory of ideas. Therefore, the initial question might be framed in two different ways. First, one would want to determine if society believes that the production of ideas requires labour. Second, one might want to know whether or not, regardless of society’s beliefs, the production of ideas *actually does* require labour. This second question is the metaphysical one; in its shadow, society’s belief may appear superficial. It is not. We are concerned with a justification of intellectual property,

and social attitudes — “understandings” as Justice Stewart said - may be the only place to start.

Some writers begin with the assumption that ideas always or usually are the product of labour. For example, Professor Douglas Baird assumes that although one cannot physically possess or occupy ideas, property in ideas is justified because people “have the right to enjoy the fruits of their labour, even when the labours are intellectual.” He believes the great weakness in this justification is that others also need free access to our ideas. In Lockean terms, this is an “enough and as good” problem. Baird, however, never considers the prospect that idea-making may not involve labour. Of course, there are clear instances in which ideas seem to be the result of labour: the complete plans to a new suspension bridge, the stage set for a Broadway show, a scholar’s finished dissertation involving extensive research, or an omnibus orchestration of some composer’s concertos.

The peripheral realms of intellectual property also provide examples in which the object immediately seems to be the product of tremendous work: news stories gathered and disseminated by wire services, or stock indexes calculated by a financial house. The images of Thomas Edison inventing the light bulb and George Washington Carver researching the peanut come to mind as examples of labourious idea-making. As society has moved toward more complicated technologies, the huge scales of activity required by most research, involving time, money, and expertise, have made the autonomous inventor a rarity. This trend strengthens the image of idea-making as labour akin to the mechanical labour that operates industrial assembly lines. Yet as we move toward increasingly large research laboratories that produce patentable ideas daily, we should not be so entranced by the image of a factory that we immediately assume there is labour in Silicon Valley.

Locke, after all, begins his justification of property with the premise that initially only our bodies are our property. Our handiwork becomes our property because our hands and the energy, consciousness, and control that fuel their labour are our property. The point here is not validation of Epstein’s link of property with bodily self-possession but rather the more general observation that Locke linked property to the product of the individual person’s labour. We must examine the production of ideas more fully if we expect to show that their creation involves Lockean labour.

3.2.3 The Avoidance View of Labour

If we surveyed people on their attitudes toward idea-making, what might we find? First, we would probably find that many people who spend time producing ideas prefer this activity to manual labour. It probably also is true that many manual labourers would rather spend time producing ideas than performing manual labour. That an idea-maker prefers idea-making to farming, roofing, or putting screws in widgets suggests that idea-making may not be viewed as labour in the same way that the latter activities are. It may share this distinction with such professions as competitive sports. Yet at least at some level of desires, the idea-maker probably prefers to be on vacation than to be in his office or laboratory. For most people creation is less fun than recreation. Although "idea work" is often exhilarating and wonderful, it is something we generally have to discipline ourselves to do, like forcing oneself to till the fields or work the assembly lines.

This discussion depicts labour in one particular way: something which people avoid or want to avoid, something they don't like, an activity they engage in because they must. Lawrence Becker aptly has described Locke's view of labour as a "proposal that labour is something unpleasant enough so that people do it only in the expectation of benefits." In fact, Locke himself refers to labour as "pains." One commentator has observed that this concept of labour is more likely the product of experience than logical rigor: Comparing labour and property is complicated by an equivocation about the idea of labour, which is dominated by the metaphor of sweat on the brow. Hence it is that the least imaginative work counts most securely as labour. The squires and merchants of the seventeenth century were far from idle men, but administration and entrepreneurship do not so obviously qualify for the title of labour as the felling of trees and the planting of corn. In an understanding of labour based on the notion of "avoidance," labour is defined as an unpleasant activity not desirable in and of itself and even painful to some degree.

At this point we can separate the normative proposition of the labour theory from the instrumental argument with which it is usually identified. The normative proposition states: the unpleasantness of labour should be rewarded with property. In this proposition, the "should" is a moral or ethical imperative, which is not based on any consideration of the effects of creating property rights. In comparison, the instrumental argument is directly concerned with those effects. It

proposes that the unpleasantness of labour should be rewarded with property because people must be motivated to perform labour. In principle, the two propositions can coexist but neither requires acceptance of the other. In practice, however, the two not only coexist, but the instrumental argument often seems to be treated as a "proof" of the normative argument. The instrumental claim has a utilitarian foundation: we want to promote labour because labour promotes the public good. Once we recognize that property is needed to motivate work for the public good, we may transform the reward into a right just as we often convert systematically granted benefits into rights deserved by the recipients. Perhaps we do this because it would be inconsistent and disconcerting to say that some systematically granted benefit is not deserved. Perhaps we just make the transition from instrumental to normative propositions through lack of attention. For example, in the 1954 case *Mazer v. Stein*, the Court said:

"The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors. Sacrificial days devoted to such creative activities deserve rewards commensurate with the services rendered."

As *Mazer* demonstrates, it is strikingly easy to move from an instrumental discussion of consequences to an assumption of just rewards.

3.2.4 The "Value-Added" Labour Theory

Another interpretation of Locke's labour justification can be called the "labour-desert" or "value-added" theory. This position holds that when labour produces something of value to others something beyond what morality requires the labourer to produce then the labourer deserves some benefit for it. This understanding of property does not require an analysis of the idea of labour. Labour is not necessarily a process that produces value to others. It is counterintuitive to say labour exists only when others value the thing produced. It also would be counter to Locke's example of the individual labouring and appropriating goods for himself *alone*. The "labour-desert" theory asserts that labour often creates *social* value, and it is this production of social value that "deserves" reward, not the labour that produced it.

The legal history of intellectual property contains many allusions to the value-added theory. The legislative histories of intellectual property statutes refer repeatedly to the value added to society by investors, writers, and artists. Indeed those judicial or legislative statements that appear to fuse the normative and instrumental propositions of the labour justification are perhaps based, unknowingly, on the value-added theory. In *Mazer v. Stein* the Court appeared to be saying that the enhancement of the public good through the efforts of intellectual labourers made the creators of intellectual property *worthy* of reward. In other words, their contribution to the public good justified the reward of property rights. More precisely, it is an instrumentalist provision aimed at rewarding people who bring added value to the society. Little else could have been meant by giving people "the exclusive Right to their respective Writing and Discoveries in order "to promote the Progress of Science and useful arts." The value-added theory usually is understood as an instrumentalist or consequential argument that people will add value to the common if some of the added value accrues to them personally.

Paralleling the discussion of the avoidance theory of labour, it is possible also to treat the value-added theory as a normative proposition: people *should* be rewarded for how much value they add to other people's lives, regardless of whether they are motivated by such rewards. Some kinds of intellectual property have appeared only in contexts in which the property represents a value added to the society. *International News Service v. Associated Press* inaugurated "quasi-property" protection for gathered information. The opinion merged unfair competition doctrine and property arguments to prohibit one party's appropriation of the product of another party's labour. Such appropriations occur only when the party taking the product believes it to have some value. To state the proposition differently, one could not argue that it is *unfair competition* to take away someone's *worthless* labour. Unfair competition is the purloining of another's competitive edge - an "edge" that has social value. In so far as protection of gathered information rests on an unfair competition model, it necessarily relies on the value-added justification. If the fruits of labour have no prospective value, stealing those fruits may be socially unkind, but not competitively unfair. Similarly, trade secret infringement cases result from claimed losses of social value by the petitioner. No court has ever had to face a test case of a vigorously defended

but worthless trade secret. There is a very simple reason why the legal doctrines of unfair competition and trade secret protection are inherently oriented toward the value-added theory: they are court created doctrines and people rarely go to court unless something valuable is at stake.

When intellectual property is created more systematically, such as through legislation, the resulting property doctrines seem less singularly oriented toward rewarding social value. Indeed, patents provide a vexing example of conflicting reliance on the value-added theory. To receive patent protection, a new invention must meet a standard of "usefulness" or "utility", a criterion which suggests that the invention must manifest some value added to society. On closer inspection, the meaning of this criterion is not so clear. At one extreme, it has been expressed as being devoid of a "value-added" requirement and as only mandating that the invention not be, on its face, wholly valueless. In *Lowell v. Lewis* Justice Story eloquently expressed this position. All that the law requires is that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society. The word "useful", therefore, is incorporated into the act in contradistinction to mischievous or immoral. But if the invention steers wide of these objections, whether it be more or less useful is a circumstance very material to the interests of the patentee, but of no importance to the public. If it be not extensively useful, it will silently sink into contempt and disregard. Most courts now hold that a "step forward" or an "advance over prior art" is a critical part of the utility requirement. But these tests seem to blur the utility criterion with the "novelty", "obviousness," and "operability" requirements of patent grants.

It is not necessary to separate these modern standards in order to appreciate how they generally bear on the value-added question. Stated succinctly, they require that an invention be enough of an advance over the previous art so that the average person schooled in the art would not consider the advance immediately obvious, but also would understand how the invention improves upon previously available technology. The invention need not function perfectly, but it must operate effectively enough that a person schooled in the art could make it perform the tasks described in the patent application. To require that something be an "advance" over existing technology clearly demands that there be new value in this item; that the invention be "non-obvious" raises the threshold of the additional value requirement. Obvious improvements add some value to existing art, but it is only

modest value because anyone trained in the art can see the improvement almost as a matter of intuition. The patent law requires that the new value be greater than that derived from "tinkering" with known technology. Those standards seem conclusively to manifest a value-added requirement. There are, however, some complexities. In discussing the operability criteria, Peter Rosenberg aptly describes a well-accepted patent doctrine which seems to pose a strong counterargument to the value-added requirement. To satisfy the operability standard, an inventor need not establish that his invention is better than, or that it is even as good as, existing means for accomplishing the same result. The law does not ask *how* useful the invention is. A device that may not operate well may nevertheless be operative.

3.2.5 Labour and the Idea/Expression Distinction

The avoidance and value-added interpretations of the labour theory have very different foci. The avoidance theory argues that labour, by its nature, is unpleasant. The value-added theory places no limits on the general nature of labour; it can be pleasant or unpleasant, stupefying or invigorating. The value-added theory may explain why labour justifies property at the *social* level, while the avoidance theory makes the *individual* feel justified in receiving something for his "pains". But this still leaves unresolved the nettlesome question of whether or not producing intellectual property actually requires labour. For the moment, let us treat the creation of a finished intellectual product as a two-step process. One step is thinking up the "idea", used here in the usual sense of the creative element or unique notion. The second step is the work necessary to employ the idea as the core of a finished product. In the case of an innovative suspension bridge, the engineer has an original idea and then spends months doing all the drawings and calculations necessary to produce the finished plans. Edison had the idea of a light source produced by electrons travelling through a filament within a vacuum. He and his workers then spent weeks finding the proper filament material, the proper vacuum, and the proper electrical charge.

These two steps represent the difference between idea and execution. Sometimes this difference is not readily visible or, when it does exist, the part we identify as the idea may seem the *less* important of the two components. *Sartoris* and *Absalom*, have the same idea: the not too original notion of the saga of a Southern family. The difference, the uniqueness, and the importance to society is in the execution. The idea of orchestrating *Pictures at an Exhibition*, Moussorgsky's

1874 composition for solo piano, is not worth much in itself, nor is the thought of doing a painting of the front of the Rouen Cathedral basked in sunlight. But each idea has proved to be a foundation for more than one significant execution. In these examples the distinction between idea and execution is drawn at a gross level. Although the distinction may seem intuitively right, it can be blurred and redrawn by focusing on different levels of detail. There is not just the idea of orchestrating a piano piece, but the more detailed idea of using a particular motif in the third movement, and the even more detailed idea of using a particular percussion instrument in the forty-seventh stanza of that movement. The achievement in writing fiction or in composing may be in the execution precisely because each turn of phrase, musical or literally, is the result of a creative event.

The Lockean conception of idea-making provides another ground for treating idea and execution as a single event. Viewing new ideas as plucked from some platonic common may be reification in the extreme. Yet in that view, the ideas already exist and the chief labour is transporting them from the ethereal reaches of the idea world to the real world where humanity can use them. If ideas are thought of as such pre-existent platonic forms, the *only* activity possible is execution, which consists of transporting, translating, and communicating the idea into a form and a location in which humans have access to it. Existing intellectual property regimes favour granting property rights only to those ideas which have received substantial execution.

3.3 Justification of IPR on the Basis of Various Theories of Property

There are various theories have been propounded to justify the concept of private property. The intellectual property is also a type of private property, so the basic justification of intellectual property rights may derive from the theories for the justification of private property.

According to Roscoe Pound theories by which men have sought to give a rational account of private property as a social and legal institution may be arranged conveniently in six principle groups, each including many forms. There groups may be called: (1) Natural-law theories, (2) metaphysical theories, (3) historical theories, (4) psychological theories, and (5) sociological theories.

3.3.1 The Natural-Law Theories

Some proceed on a conception of principle of natural reason derived from the nature of things, some on conception of human nature, the former continue the ideas of the Roman lawyers. They start with a definite principle found as the explanation of a concrete case and make it a universal foundation for a general law of property. As it has been put, they find a postulate of property and derive property there from by deduction. Such theories usually start either from the idea of occupation or from the idea of creation through labour. Theories purporting to be based on human nature are of three forms. Some proceed on a conception of natural rights, taken to be qualities of human nature reached by reasoning as to the nature of the abstract man. Others proceed upon the basis of a social contract expressing or guaranteeing the rights derived by reason from the nature of man in the abstract. In recent thinking a third form has arisen which may be called an economic natural law. In this form of theory a general foundation for property is derived from the economic nature of man or from the nature of man as an economic entity. There are modern theories of natural law on an economic instead of an ethical basis.

Pufendorf rests his whole theory upon an original pact. He argues that there was in the beginning a "negative community." That is, all things were originally *res communes*. No one owned them. They were subject to use by all. This is called a negative community to distinguish it from affirmative ownership by co-owners. He declares that men abolished the negative community by mutual agreement and thus established private ownership.

In Anglo-American law, the justification of property on a natural principle of occupation of ownerless things got currency through Blackstone. As between Locke on the one side and Grotius and Pufendorf on the other, Blackstone was not willing to commit himself to the need of assuming an original pact. Apparently he held that a principle of acquisition by a temporary power of control coextensive with possession expressed the nature of man in primitive times and that afterward, with the growth of civilization, the nature of man in a civilised society was expressed by a principle of complete permanent control of what had been occupied exclusively, including as a necessary incident of such control the *ius disponendi*.

3.3.2 Metaphysical Theories

Metaphysical theories of property are part of the general movement that replaced seventeenth and eighteenth-century theories of natural rights, founded on the nature of the abstract man or on an assumed compact, by metaphysical theories. They begin with Kant. He first sets himself to justify the abstract idea of a law property—the idea of a system of “external *meum* and *tuum*.” Here, as everywhere else, he begins with the inviolability of the individual human personality. A thing is rightfully mine, he says, when I am so connected with it that anyone who uses it without my consent does me an injury. But to justify the law of property we must go beyond cases of possession where there is an actual physical relation to the object and interference there with is an aggression upon personality. The thing can only be mine for the purposes of a legal system of *meum* and *tuum* where it will be wronged by another’s use of it when it is not actually in my possession. This raises in the first instance the question, “How is a merely juridical or rational [as distinguished from a purely physical] possession possible?” He answers the question by a metaphysical version of the occupation theory of the eighteenth century. Conceding that the idea of a primitive community of things is a fiction, the idea of a logically original community of the soil and of the things upon it, he says, has objective reality and practical juridical reality. Otherwise mere objects of the exercise of the will, exempted there from by operation of law, would be raised to the dignity of free-willing subjects, although they have no subjective claim to be respected. Thus the first possessor founds upon a common innate right of taking possession, and to disturb him is a wrong.

Hegel develops the metaphysical theory further by getting rid of the idea of occupation and treating property as a realization of the idea of liberty. Property, he says, “makes objective my personal, individual will.” In order to reach the complete liberty involved in the idea of liberty, one must give his liberty an external sphere. Hence a person has a right to direct his will upon an external object and an object on which it is so directed becomes his. It is not an end in itself; it gets its whole rational significance from his will. Thus when one appropriates a thing, fundamentally he manifests the majesty of his will by demonstrating that

external objects that have no wills are not self-sufficient and are not ends in themselves.

Nineteenth-century metaphysical theories of property carry out these ideas or develop this method. And it is to be noted that they are all open to attack from the standpoint of the theory of *res extra commercium*. Thus Hegel's theory comes to this : Personality involves exercise of the will which respect to things. When one has exercised his will with respect to thing and so has acquired a power of control over it, other wills are excluded from this thing and are to be directed toward objects with which other personalities have not been so identified.

3.3.3 Historical Theories

Historical jurists have maintained their theory on the basis of two propositions: (1) The conception of private property slow but steady development from the beginnings of law; (2) individual ownership has grown out of group rights just as individual interests of personality have been disentangled gradually from group interests.

In the most primitive social control only natural possession is recognized, and interference with natural possession is not distinguished from interference with the person or injury to the honor of the one whose physical contact with the physical object is meddled with. In the earlier legal social control the all important thing is *seisin*, or possession. This is a juristic possession, a conception both of fact and of law. Such institutions as *tortuous conveyance* by the person seized in the common law are numerous in an early stage of legal development. They show that primarily the law protected the relation to an object of one who had possession of it.

Self-acquired property may be seen in Hindu law and also in Roman law. In Hindu law all property is normally and *prima facie* household property. The burden is upon anyone who claims to be the individual owner of anything. But an exceptional class of property is recognize which is called self-acquired property. Such property might be acquired by "valor", that is, by leaving the household and going into military service and thus earning or acquiring by way of booty; or by "learning", that is by withdrawing from the household and devoting oneself to study and thus acquiring through the gifts of the pious or the exercise of knowledge.

3.3.4 Psychological Theories

An instinctive claim to control natural objects is an individual interest of which the law must take account. This instinct has been the basis of psychological theories of private property. But thus far these theories have been no more than indicated. They might well be combined with the historical theory, putting a psychological basis in place of the nineteenth-century metaphysical foundation. A social psychological legal history might achieve much in this connection.

Soviet jurists now regard ownership as a permanent institution of human society. They admit that the law must recognize property. But there is to be socialist ownership on the one the one hand and individual ownership on the other hand. The distinction is said to go upon a principle of state ownership of the instruments and means of protection and individual ownership of consumer's goods. This principle, however, is not consistently carried out in the Soviet law of property. The term "consumer's goods" by no means covers all the things which individuals are allowed to own. As Gsovski puts it, "the theory of ownership in consumer's goods, offered as a explanation of the Soviet 'personal' ownership, is more a slogan of economic policy than an operative legal principle". As yet the Soviet Jurists have not given us a philosophical account of their present doctrine.

3.3.5 Sociological Theories

Of sociological theories, some are positivist, some psychological, and some social-utilitarian. An excellent example of the first is Duguit's deduction from social interdependence through similarly of interest and through division of labour. He has but sketched this theory, but his discussion contains many valuable suggestions. He shows clearly enough that the law of property is becoming socialized. But, as he points out, this does not mean that property is becoming collective. It means that we are ceasing to think of it in terms of private right and are he should reflect on recent rent legislation, which in effect treats the renting of houses as a business affected with a public interest in which reasonable rates must be charged as by a public utility. Also it means that cases of legal application of wealth to collective uses are becoming continually more numerous. He then argues that the law of property answers to the economic need of applying certain wealth to definite individual or collective uses and the consequent need that society

guarantees and protect that application. Hence, she says, society sanctions acts which conform to those uses of wealth which meet that economic need, and restrains acts of contrary tendency. Thus property is a social institution based upon an economic need in a society organized through division of labour. It will be seen that the results and the attitude toward the law of property involved are much the same as those which are reached from the social utilitarian standpoint.

Psychological sociological theories have been advanced chiefly in Italy. They seek the foundation of property in an instinct of acquisitiveness, considering it a social development or social institution on that basis. Social utilitarian theories explain and justify property as an institution which secures a maximum of interests or satisfies a maximum of wants, conceiving it to be a sound and wise bit of social engineering when viewed reference to its results.

Recent social-economic theory has turned to the function of property in the social-welfare state. It is laid down that ownership, an absolute power of disposing of a thing, had originally been a just and adequate legal institution in a society in which property, work, and use went together in a simple economic order. Marx urged that in the evolution of society ownership of a complex of things no longer coincides with personal work and use, but as absolute control of the complex, thought of as capital, becomes a source of a power of command. Renner has developed the thesis that the juristic conception is the same but its function has changed. The owner can use his control of certain things to control other persons. So while in legal form property is an institution of private law, a complete power of doing what one likes with the thing owned, it has become in economic effect an institution of public law in the sense of a power of command exercised through incidental legal institutions developed from the law of obligations. But as **Friedman** has pointed out, in the economic order of today ownership and control have become increasingly divorced. What has been called "the managerial revolution" must be taken into account. Marx's idea of technical legal ownership is not a picture of the actual situation. The part which ownership plays in the concentration of power against which men have always struggled must be appraised in a theory of property, and determination and appraisal are by no means so simple a task as jurists have assumed.

Thus, the above analysis of the theories of property is shown that the justification of intellectual property is not different from the justification of private property.

3.4 The Modern theories for Justifications of Intellectual Property Rights

The justifications that have been given for intellectual property tend to fall into one of two general categories. First, commentators often rely upon instrumental justifications that focus on the fact that intellectual property induces or encourages desirable behavior. For example, the patent system is sometimes justified on the basis that it provides inventors with an incentive to disclose valuable technical information to the public, which would have otherwise remained secret. Similarly, the trade mark system is justified because it encourages traders to manufacture and sell high quality products. It also encourages them to provide information to the public about those attributes. Alternatively, commentators often call upon ethical and moral arguments to justify intellectual property rights. For example, it is often said that copyright is justified because the law recognizes an author's natural or human rights over the products of their labour. Similarly, trade-mark protection is justified in so far as it prevents third parties from becoming unjustly enriched by 'reaping where they have not sown.

There are some modern theories, though mainly propounded to justify the concept of copyright yet, justify the whole concept of IPR. These theories are given below :

3.4.1 Natural Rights

According to natural rights theories, the reason why copyright protection is granted is not because we think that the public will benefit from copyrights. Rather, copyright protection is granted because it is right and proper to do so. More specifically, it is right to recognize a property right in intellectual productions because such productions emanate from the mind of an individual author. For example, a poem is seen as the product of a poet's mind, their intellectual effort and inspiration. In short, it is an expression of the author's personality. On the assumption that a work created by an individual reflects the unique nature of them as an individual, natural rights arguments require that we recognize the resulting creation as the exclusive property of its creator. In the words of an ancient aphorism, 'to every cow its calf. The corollary of this is that the copying of another person's work is a usurpation of their property, which is equivalent to theft. It is

also an imposition on their personality. Copyright is the positive law's realization of this self-evident, ethical precept.

3.4.2 Reward

According to reward arguments, copyright protection is granted because we think it is fair to reward an author for the effort expended in creating a work and giving it to the public. Copyright is a legal expression of gratitude to an author for doing more than society expects or feels that they are obliged to do. In a sense, the grant of copyright is similar to the repayment of a debt. However, in contrast with other systems of reward (such as the Booker Prize), copyright allows the general public to determine who should be rewarded and the size of that reward: the more copies of a book that are purchased or the more a record is played on the radio, the greater the financial reward that accrues to the copyright owner.

3.4.3 Incentive Based Theories

In contrast with the natural rights and reward theories, the third argument of copyright is not based on ideas of what is right or fair to an author or creator. Rather, it is based on an idea of what is good for society or the public in general. The incentive argument presupposes that the production and public dissemination of cultural objects such as books, music, art, and films is an important and valuable activity. It also presupposes that without copyright protection, the production and dissemination of cultural objects would not take place at an optimal level. The reason for this is that while works are often very costly to produce, once published they can be readily copied. For example, while this textbook took a considerable amount of time and energy to write, once published, it can be easily and cheaply reproduced. Consequently, in the absence of copyright protection, a competitor could reproduce Bently and Sherman's Intellectual Property Law without having to recoup the expense of its initial production. In so doing they could undercut Oxford University Press. According to the incentive argument, if Bently, Sherman, and Oxford University Press were not given any legal protection, Intellectual Property Law would never have been written or published and the world would have been a commensurably poorer place. The legal protection given by copyright is intended to rectify this 'market failure' by providing incentives that encourage the production and dissemination of works. In short, copyright provides a legal means

by which those who invest time and labour in producing cultural and information goods can be confident that they will not only be able to recoup that investment, but also to reap a profit proportional to the popularity of their work.

3.5 Summary

The scope of intellectual property rights is very wide. The field encompasses such legal concepts as trademarks, patents, designs as well as copyright. All these legal concepts deal in one way or the other with the protection of the fruits of man's creative efforts. The man who thinks up a distinctive and original name, device or get-up to market his goods in order to make the goods easily recognizable or even more attractive to the average purchaser, and had over a period of time procured through the quality of his goods substantial goodwill for the name, device or get up, deserves some protection for such name, device or get-up, and he is indeed protected by the law of trade marks. The man who spends money, energy, ingenuity and time in conducting research and inventing a new machine, discover a new device or process is protected by the law of patents. The man who designs a new shape for a motor car or settee or designs a new patterns for textiles is also creative. He is protected by the law of designs. The man who writes a new song, or story, or the architect who designs a unique building are all creative. They on their part are protected by the law of copyright.

The Locke's theory for the justification of IPRs has two aspects: *first*, society rewards labour with property purely on the instrumental grounds that we *must* provide rewards to get labour and *second*, labour *should* be rewarded. Locke has simply said in the favour of IPRs that "one's body is one's property". Locke begins his justification of property with the premise that initially only our bodies are our property. Our handiwork becomes our property because our hands and the energy, consciousness, and control that fuel their labour are our property.

There are many other theories in regard to the intellectual property rights. The theories namely: (1) Natural-law theories, (2) metaphysical theories, (3) historical theories, (4) psychological theories, and (5) sociological theories and the modern theories have given intellectual property social and legal recognition.

3.6 Self-Assessment Test

1. Give a brief account of Lockean justification of IPRs.

2. Is mere an "idea" a property? Explain in regard to Locke's theory.
3. Describe natural law theories and metaphysical theories in regard to IPRs.
4. Explain briefly the Historical Theories, Psychological Theories and Sociological Theories.
5. Explain the Modern theories for Justifications of Intellectual Property Rights.

3.7 Further Readings

1. Intellectual Property Law Journals
2. Benko, Robert P. (1987), *Protecting Intellectual Property Rights: Issues and Controversies* (Washington, D.C.: American Enterprise Institute for Public Policy Research).
3. Locke, J. (1690) "Second Treatise of Government", electronic copy available at <http://www.constitution.org/jl/2ndtreat.htm>.
4. WIPO Intellectual Property Handbook, (2004); WIPO Intellectual Property Law: Introductory notes; *WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).

Unit 4

Concept of Property and IPR as One of the Aspect

Objectives:

After going through this unit, you should be able to understand the concept of property and should be able to analyze why intellectual property is regarded as the property and how it is one of the aspect of the property.

Structure:

- 4.1 Introduction
 - 4.2 What is Meant by, and, how to define the Property?
 - 4.3 Subject Matter of Property
 - 4.3.1 *Material Objects*
 - 4.3.2 *Immaterial Objects*
 - 4.4 Legal Impact of Being a Property
 - 4.5 Characteristics of Property
 - 4.5.1 *Transferability*
 - 4.5.2 *Able to possess and own*
 - 4.5.3 *Accompanied with interests*
 - 4.6 Kinds or Classification of Property
 - 4.7 Public Property or public heritage
 - 4.8 What Counts As Intellectual Property?
 - 4.9 Summary
 - 4.10 Self-Assessment Test
 - 4.11 Further Readings.
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4.1 Introduction

All the things in the world are, ultimately, connected with the nature. Nature gives the life as well as provides the means to being alive and grown up. The fruits of nature are equally available to all but, the beneficiaries thereof are not equal. The gifts of nature, if not be dealt in a proper manner, it would lead some to

greed and others to hunger. So the concept of 'property' emerged to determine what is yours; what is his; and, what is for all.

The word 'property' generally, denotes a person's belonging. In legal sense, it includes both, the objects (whether material or immaterial) and, the rights over such objects but, all a person rights or all material or immaterial objects do not construct a property. There are some essential characteristics of property such as, transferability, possession and, ownership. Property may be of different kinds according to the subject matter and its nature. The ownership of a property confers some proprietary rights on the owner of property, subject to the conditions and limitations of respective laws.

4.2 What is Meant by, and, how to define the Property?

The term 'property' is generally, used to describe the belonging of a person. In a wide sense, almost all the natural and artificial things (except human being and some environmental heritages like, air, cloud etc), may come in the ambit of the word 'property'.

In traditional manner, the term 'property' is commonly used in relation to tangible objects such as land, house, car etc. but, in modern conception; property is not restricted to its traditional limits. Several new forms of property has evolved, for instance, incorporeal property, industrial property, intellectual property etc. further, various rights are also treated as a property. Thus, the scope of property has become very wide and become of the widening horizons of the term property, it become more difficult to define it.

Encyclopedia Britannica defines the property as:

“Property is a term used popularly to refer to a thing owned by a person, but used more accurately in law to refer a scheme of relationship that are recognized or established by government and that exist between individuals with respect to an object. The object may be tangible, such as, land, or completely the creature of law, such as, patent or copyright”.

A more elaborated definition is given by the encyclopedia Americana in following words:

“Property, in its broadest sense, is anything that may be possessed or become the subject of ownership. In its legal context, property emphasises the rights of ownership the rights to possess, enjoy, use and

dispose of things, either tangible or intangible. An essential element of property is the transferability of the thing owned. Tangible property, consist of physical things, such as land, buildings and furniture. It may be real or personal, and it is necessarily corporal in that it is perceptible to the touch and sight. Intangible property has no intrinsic value as such, but acts as evidence of value. It includes stocks, franchise agreements, patent rights, business goodwill and rights of action."

Similarly, Webster's new encyclopedic dictionary defines the property as 'anything that is owned'.

Almost some pattern is followed by the Supreme Court of India to defining the property:

"property means the highest right a man can have to anything, being that right which one has to lands or tenements, goods or chattels which does not depend on other's courtesy : it includes ownership, estates and interests in corporeal things, and also rights such as trademarks, copyrights, patents and even right in personam capable of transfer or transmission, such as debts, and signifies a beneficial right to or a thing considered as having a money value especially with reference to transfer or succession and to their capacity of being injured."

Another considerable definition of property is given by Salmond. Salmond takes the property as a 'right-in-rem', possesses different applications having different degrees of generality. He states about four applications of the term property. According to Salmond:

'Property, in its broadest sense, includes all a person rights, of whatever description. In second sense, property includes the 'proprietary rights' of a person. In a third application, the term includes only proprietary rights 'in-rem'. Finally, in the narrowest use of the term, it includes nothing more than corporeal property'.

Salmond, thus, describes different subject matters in reference of which, the term property is applicable. In Salmond's conception, these are basically, the rights known as a property. The rights may be proprietary or non-proprietary one. Such proprietary rights may be right in rem or right in personam. Besides the rights, the term property is, in its narrowest sense, applicable only to corporeal property. The

meaning of corporeal property, according to Salmond, is the right of ownership in a material object or that object itself.

On analyzing all above definitions we find that property is something can own or possessed. Ownership or possession is one of the essential characteristics of property. In fact, a thing becomes a property while it is possessed or owned by a person. Further, the second essential element of property is its transferability. It may be say, in this respect, that anything which is transferable is property. A property may be tangible or intangible according to its subject matter. If the subject matter of a property is a material object (i.e. Land, house, furniture etc.), the property is called tangible and, if such subject matter is immaterial (i.e. rights, skill, knowledge etc.), it will form an intangible property. Property can again be divided into two heads i.e. movable and immovable property. The division is based on the nature of subject-matter concern. When the subject-matter is fix or static in nature (land, house), it called immovable property while, the things of dynamic nature (car, furniture) are known as movable property.

Finally, a general definition of property may be given as follows:

“Property is a material or immaterial object (including rights), a person have own or possess; not being a mere right necessary to growth and development of human life or, anything in contrast to law, morality and natural justice.

4.3 Subject Matter of Property

The Subject matter of property can be divided into two heads, that is, (i) material objects or things and, (ii) immaterial objects or things. The material objects, in this reference, include a physical thing perceptible to touch and immaterial things include the skill, knowledge and rights of a person. All these aspects are discussed in detail under the further heads:

4.3.1 Material Objects

A thing which we can see and touch is called material object. There may be different forms of material objects, broadly divided into movables and immovable's or land and chattels. Another classification of material objects is known as real and personal. Immovable or real property includes the land and all that is permanently fixed with or vested in the land, for example building and

minerals. The movables or chattels or personal property includes all that is not immovable. A car, a book, a dog are the examples of movable material objects.

Thus, the material objects of whatever description (i.e. movable or immovable) are the subject matter of property. But there is a point to note that a material object is just a subject matter of property, not the property in itself.

When a material object becomes a property

Material objects are naturally not a property. Such an object becomes a property when a person owns or possesses it. The proprietary value of a material objects thus depends on the external intervenes. In other words, there can be no property unless and until, there is a person (owner or possessor) to deal with it, for example, there is a valuable pearl in the open ocean, the pearl is not a property but just a material object. A person finds it and takes it in his possession, here; as soon as the person possesses it (if not in contravention to any law); the pearl becomes a property (of the person).

Thus, it may be said that, a material object accompanied with a person's interest is a property. The property always belongs to someone. A wild animal, for instance, is not a property (it may be a natural heritage) but, a pet animal is, always a property of its owner.

The rule is not applicable only to material objects but also to other types of property. For example a copyright or patent is a property of its owner. But, as soon as the duration of such copyright or patent terminates and it falls in public domain, it does not remain as a property. Although, it may be said that, now, such copyright or patent has become a public property but, this is not so, because, the public do not have the same rights an owner has.

4.3.2 Immaterial Objects

An immaterial object is something which can be realized but not perceptible to the touch and sight. It includes the skill and knowledge of a person, the rights and, some other things like, gases, spectrums, computer programmes etc.

According to Salmond:

“The only immaterial things which are recognised by law as the subject matter of rights of this description (re-properia) are the various immaterial products of human skill and labour. In modern law every man owns that which he creates. These material forms of property are of five kinds, namely, (i) Patents (ii)

Literary Copyright, (iii) Artistic Copyright, (iv) Musical and dramatic copyright and, (iv) Commercial good will : trademarks and trade names.”

How an immaterial object becomes a property

Nature blesses everyone with some special qualities. The qualities or skills in a person are like a pearl in open ocean i.e. not a property in itself. But, as soon as someone trace and apply (or at least tended to apply) it practically, it become a property (of that person). The law, thus, does not protects the skill of a person but, the products of such skill and the rights there over, for example, a person skilled in literary writings does not comes in the ambit of copyright protection unless he write something. Such writing is an application of his skill and thus protectable under the law.

As mentioned earlier, a property is always accompanied with an interest and a person's interest is in the 'application' of his skill. Such skill accompanied with such application is a property of person concern. Hence, a person possesses a skill of singing or of playing a particular game or having some innovative thoughts; he can apply his skill in any manner he pleases. In such cases, if a player contracts to play for a particular team, he, thus, transfers his property i.e. application of playing skill in favour of the team. Thus, the auction of players does not the auction of person playing the game but, of the application of his playing skill because; a human being can not be a subject matter of auction or sale.

Rights as an immaterial property

Rights are also a subject matter of property with immaterial nature. According to Salmond, the property, in its widest sense includes all rights of a person of whatever description. But, there are various rights, in contrast of Salmond's view, cannot be construed as a property. Fundamental rights and human rights, for instance, are although a persons' rights but not someone's property.

In order for a right to be a property, it is necessary to have some distinct characteristics. First of all, such a right should be independent in nature. 'Independence' in this reference, means that the existence of the right should not be vested in something or someone to such a extent that it (right) cannot exist separately or it would become meaningless on any such separation. For example, right of easement is not a property in itself because this is not an independent right; its existence is vested in the main property and cannot be separated from it.

Similarly, the moral rights of an author, in a copyrighted work, are exclusively confer on the author of the work and cannot be enjoyed by any other person because, the moral rights protect the distinctive and creative personality of the author. The whole object of moral right protection would be failed on the separation of such rights from the author's personality. Thus, moral rights also do not construct a property. The same rule is applicable to several other rights such as, right of maintenance, right of pre-emption etc.

Further, there are some rights of such a high sensitivity and significance, as cannot be treated as common as property. For example, fundamental rights and human rights of a person are the rights multiple time valuable than a property. These rights are the great heritage of human civilization and a heritage can never be someone's property.

4.4 Legal Impact of Being a Property

When a subject matter becomes a property, the first important impact occurs on the part of the subject matter holder i.e. owner of such property. Such a person becomes entitled to deal with the property as he wishes. The property can be used, transferred, charged, waived or destroyed by the owner.

Another impact occurs on the part of the public at large. The general public may be excluded by the owner from dealing with the property.

The most common and significant impact occurs on the part of property itself. The property comes within the ambit of respective laws. The laws protect the property and the related rights as well as may impose some duties or conditions regarding the use (etc.) of the property.

4.5 Characteristics of Property

The property has some distinctive characteristic which differ it from the non-proprietary objects. There are mainly three essential characteristics of a property namely, transferability; able to possess and own; and, accompanied with an interest. These characteristics of the property are discussed below.

4.5.1 Transferability

A very common and essential feature of a property is its transferability. A property can be transferred in different modes such as, sale, lease, mortgage, bailment,

assignment, license etc. Different modes of transaction have different effects on the interests of the concern parties. Modes of transfer also get affected by the nature of property concerned. Thus, with the very nature and form of the property the modes of transfer and its impacts too vary.

4.5.2 Able to possess and own

Another important characteristic of a property is its ability to be earned or acquired. Anything which cannot be earned by human efforts can not be a subject-matter of property. Such as, human life is not a subject matter of property as it cannot be earned or created by human efforts. Thus, property is always the subject matter of possession and ownership. Such possessor or owner is always a human being i.e. person (natural or juristic).

Again, a notable point is that a subject matter will not necessarily become a property on the sole ground that it is able to possess or own. But, there must be a real owner to deal with it. There can be no property without an owner. Here, another important thing is that there should be a definite person or group of persons to deal with the property, otherwise the subject matter would not be treatable as a property. Where, there is a thing for the benefit of public at large or for the common society (such as a river), it cannot be construed as a property. Although, such things are named as public property, but, this is conceptually not right.

4.5.3 Accompanied with interests

One more common feature of property is that it is generally accompanied with the interests of the person concerned (i.e. owner or possessor). As soon as a person owns a thing, it becomes his property because his interests have been affiliated with the thing. Similarly when an owner of a property relinquishes his rights (or interests) in such a property, it does not remain as a property because, there is no interest affiliated with it. Hence it may be said that a subject matter with an interest of a person is equal to property. So, the owner of a lost property although does not possess the property and even has no information about it but remaining the owner as the subject matter is still the property of the owner because of the interests attached to it.

4.6 Kinds or Classification of Property

From the point of view of the subject matter, property may be of two types i.e. (i) tangible or corporeal property and (ii) intangible or incorporeal property.

As mentioned earlier, there are two main subject matters of property i.e. material objects and, the immaterial objects. So, when a material object becomes a property it is known as the corporeal or tangible property, such as land, furniture, books etc. whereas, an immaterial object constructs an intangible or incorporeal property.

Tangible property consists of the physical things (along with a person's interest). Thus, the subject matter of tangible property is the material object. The nature of material object may be movable or immovable. So the tangible property may be movable or immovable according to the nature of subject matter concern. A land or a building, for instance, is an example of tangible property and as the nature of the subject matter is immovable or static or fix, so, it would called the immovable tangible property. While, a car, furniture, a pair of shoes books etc. are known as the movable tangible property because of their movable or dynamic nature.

Intangible property, unlike the tangible, is based on the material things. Such immaterial objects include the rights and the knowledge, skill, wisdom of a person and the applications and productions of such knowledge, skill, or wisdom and also the rights there over.

As the rights, whether over material or immaterial things, are immaterial and do not has a physical form so the classification of movables and immovable is theoretically not applicable in respect of rights. But there is a trend, reflected in various judicial decisions, to classify the rights in movables and immovables. The trend is based on the opinion that the rights over movable property are the movable rights, and thus itself the movable property and similarly, rights over the immovable property are immovable and should be known as immovable property. The classification of proprietary rights in movable or immovable property is theoretically meaningless. But, it plays a significance role in cases of transfer of the properties.

Salmond classifies the incorporeal property in two kinds, namely (i) '*Jura in re aliena*' or encumbrances, whether over material or immaterial things (for example, leases, mortgages and servitudes); and, (ii) '*Jura in re propria*' over immaterial things (for example, patents, copyrights and trade-marks).

Tangible and intangible properties though possess the different features but, the nature of both is not contrary to each other. The two are often interconnected and supplementary to each-other. The proprietary rights over a tangible property form an intangible property. Similarly, the intangible property often provide a base for the physical format of a tangible property for example, if I have a land, building, car, furniture etc.(the tangible property), but my rights over such property like, right to use it or right to transfer it, are my intangible property. Again, if I have a copyright in a novel i.e. intangible property, and the novel itself, in the print form, is a tangible (movable) property.

4.7 Public Property or public heritage

A property always belongs to someone. There must be a person to deal with it. Such a person may be an individual i.e. natural person or, a juristic person like a company. Whenever we use the word “property”, in reference to a subject matter, the first question comes that “of whom”? There is no problem to answer the question, where the property belongs to a certain person or a group of person. But, the problem occurs in the cases where a subject matter belongs to general public or society at large rather to a certain person. In order to solve this problem a solution has been deduced that in later cases the subject matter to be understood as a public property (the former is obviously the private one).

In such a situation a problem occurs about the ownership and proprietary rights over the so-called public-property. The first question, in this regard, is that who is the owner of such property? In answer, it would say that the owner is public at large. Now, the point to consider is that whether the general public has the same rights of ownership an owner has? As we know, the owner of a property has the right to use it as well as to dispose it off. Whether the general public has the right to destroy a railway track, or to set a fire in a public bus, or to dispose off a public-park (i.e. so called public-properties)? The answer is an emphasised NO. Then how can we call a thing ‘property’ owner of which does not has the proprietary rights there over?

In fact, the things, for whom the word “public property” is used, are the things of such a vital importance (for public at large) as cannot be given in the ownership of a definite person. All the persons have the equal rights to use it but, generally, no one has the right to dispose it off. So, in the place of words (public) “property” the

word (public) "heritage" should be used because, the word 'property' itself guarantees the proprietary rights over the subject matter, while the word 'heritage' indicates that the subject matter is not your property at all, you can take the benefits of it but cannot dispose of it. Further, the word 'heritage' also imposes an implied duty over its 'protectors' (i.e. public at large) to take care of it. Hence, the words like, "public property" or "natural property" ought to be understood as "public heritage" or "natural heritage", respectively.

4.8 What Counts As Intellectual Property?

In many quarters, property is viewed as an inherently conservative concept - a social device for the maintenance of the status quo. In the eighteenth century, Edmund Burke argued that property stabilized society and prevented political and social turmoil that, he believed, would result from a purely meritocratic order. Property served as a counterweight protecting the class of persons who possessed it against competition from non-propertied people of natural ability and talent. To Burke, the French National Assembly - dominated by upstart lawyers from the provinces - exemplified the risk of disorder and inexperience of an un-propertied leadership. In contrast, the British parliament, a proper mix of talented commoners and propertied Lords, ruled successfully. The conservative influence of property does not, however, depend on primogeniture or even inheritance - features that gave property a valuable role in Burke's political system as well as in the political theories advanced by Hegel and Plato. Within a single lifetime, property tends to make the property owner more risk-averse. This aversion applies both to public decisions affecting property, such as taxes, and to personal decisions that might diminish one's property, such as investment strategies and career choices. Inheritance and capital appreciation are only additional characteristics of traditional notions of property that tend to stabilize social stratification.

Intellectual property is far more egalitarian. Of limited duration and obtainable by anyone, intellectual property can be seen as a reward, an empowering instrument, for the talented upstarts Burke sought to restrain. Intellectual property is often the propitiation of what we call "talent." It tends to shift the balance toward the talented newcomers whom Burke mistrusted by giving them some insurance against the predilections of the propertied class that had been their patrons. But this is only part of the truth. Much intellectual property is produced only after

considerable financial investment, whether it be in the research laboratory or in the graduate education of the scientist using the facility. It would not be surprising if historical studies showed that most holders of copyrights and patents come from at least middle-class backgrounds. For every Abraham Lincoln or Edmonia Lewis who lifted him or herself from a simple background, there is a Wittgenstein or Welty who enjoyed comfort during his or her formative years. One cannot call the history of intellectual property a purely proletarian struggle. While ancient Roman laws afforded a form of copyright protection to authors, the rise of Anglo-Saxon copyright was a saga of publishing interests attempting to protect a concentrated market and a central government attempting to apply a subtle form of censorship to the new technology of the printing press.

In the final analysis, intellectual property shares much of the origins and orientation of all forms of property. At the same time, however, it is a more neutral institution than other forms of property: its limited scope and duration tend to prevent the very accumulation of wealth that Burke championed. Because such accumulation is less typical, the realm of intellectual property has less of the laborer/capitalist hierarchy of Marxist theory. The breakthrough patent that produces a Polaroid company is more the exception than the rule. The rule is the modestly successful novelist, the minor poet, and the university researcher – all of whom may profit by licensing or selling their creations. Furthermore, intellectual property may be a liberal influence on society in as much as coming to own intellectual property is often tied to being well-educated. If people become increasingly progressive with increasing education, intellectual property confers economic power on men and women of talent who generally tend to reform society, not because they are haphazard Burkian goblins, but because they have well-informed convictions.

At the most practical level, intellectual property is the property created or recognized by the existing legal regimes of copyright, patent, trademark, and trade secret. It also must include property recognized by similar legal regimes. "Gathered information" is another genre of intellectual property. Copyright law protects the particular arrangement of the contents of telephone directories and reference works, while other forms of gathered information may have quasi-property status. Several well-subscribed international treaties create international standards for what counts as intellectual property. At the level of national laws, even socialist

economies either have recognized roughly similar parameters to intellectual property or at least have averred their subscription to the general idea of legal regimes for copyright, trademark, and patent. This does not mean that there is international uniformity in the protection granted to intellectual property, only that there are generally accepted baselines of protection. Some countries extend protection well beyond these baselines, while others benignly ignore enforcing or intentionally cut back these general principles. There is good reason to think that these differences among national legal systems do not represent profound differences in the underlying notions of what intellectual property is all about.

Developing countries may fail to promulgate or enforce intellectual property laws simply because these laws are not critical to maintaining immediate social order. Other developing countries intentionally deny protection to intellectual property as part of their official development strategy. Taiwan's longstanding refusal to honor copyrights is an infamous case, but usually the failure to protect intellectual property rights has been more limited and tailored to particular fears of foreign economic domination. Such elimination of intellectual property protection does not reflect a different conception of intellectual property so much as it does a countervailing social policy. In the final tally, there is at least as much continuity in different societies' understandings of intellectual property as in their respective conceptions of freedom of expression, equality, and property in general.

A universal definition of intellectual property might begin by identifying it as non-physical property which stems from is identified as, and whose value is based upon some idea or ideas. Furthermore, there must be some additional element of novelty. Indeed, the object, or res, of intellectual property may be so new that it is unknown to anyone else. The novelty, however, does not have to be absolute. What is important is that at the time of propitiation the idea is thought to be *generally* unknown. The res cannot be common currency in the intellectual life of the society at the time of propitiation. The res is a product of cognitive processes and can exist privately, known only to its creator. This private origin is a reasonable means to distinguish the res of intellectual property from the res of other intangible properties such as stock or stock options. Although the "inputs" for the res of intellectual property are social - the education and nurture of the creator - the assembling of the idea occurs within the mind of the creator which produces

something beyond those inputs. Sometimes the addition is more effort than creativity, as in compilations of information or number-crunching.

Intellectual property also may be thought of as the use or the value of an idea. Where X is the idea, intellectual property is defined by the external *functions* of X . The creator introduces the idea into society and, like Henry Higgins, he seeks to control the social calendar of his creation. This Pygmalion story is more apropos than first meets the eye. The creator's control is never complete and he may find himself - like Pygmalion, Higgins, or Dr. Frankenstein - fighting to control that which he has introduced into the world. The most interesting areas of intellectual property law tend to be just those places in which people are trying to hold on to their creations against those who want the creation unfettered from its master. For example, in 1985, Samuel Beckett challenged the Harvard American Repertory Theatre's controversial production of Beckett's *Endgame*. The playwright screamed about the integrity of his art; the actors screamed about the freedom of their art, and there was much public debate about constitutional protection of speech, theatre versus film, and the evilness of publishing houses. Even without such debates, intellectual property - like all property - remains an amorphous bundle of rights. First, these rights invariably focus on physical manifestations of the res. In the words of one commentator, "a fundamental principle common to all genres of intellectual property is that they do not carry any exclusive right in mere abstract ideas. Rather, their exclusivity touches only the concrete, tangible, or physical embodiments of an abstraction."

Even regarding physical embodiments, there are limitations on intellectual property rights. Copyrighted materials may be copied within the broad limits of statutorily recognized "fair use." "Fair use" focuses on personal use or use which is *not* directly for profit. Yet such uses can be public, such as quoting another's work. Although patents do not have a similar exemption for personal use, patent protection is subject to a judicially created exception: the patent holder has no right against the person whose "use is for experiments for the sole purposes of gratifying a philosophical taste or curiosity or for instruction and amusement." Such limitations are motivated, in part, by pragmatic considerations as to the difficulty of policing such infringements. These limitations, however, also serve the perhaps primary objective of intellectual property: to "promote the Progress of Science and

related therewith have been well established. Similarly, the proprietary laws have been, no doubt, cemented very strongly. But, it does not mean that the development of the concept of property has achieved its end. In fact, the routes of the tree (of property) have been established but, branches thereof are still growing up. Several new branches of the concept of property are emerging and new laws are taking place respectively. In this reference, one of the most significant modern outgrowths of the concept of property is known as the "Intellectual Property". This branch of property is a bunch of various sub-branches (of property) like, industrial property (i.e. patents, trade mark etc.); copyright; geographical indication etc.

4.10 Self-Assessment Test

1. Define the term "property"? Briefly discuss the subject-matter of the property and differentiate between the two?
2. What is the legal impact on the thing which acquires the status of the property? What are the essential characteristics of the property?
3. What do you mean by property? Discuss the modes of classification of the property?
4. Can intellectual property be regarded as a property? Give answer with reasons.
5. What rights do the owner of the property acquires and what are the rights of an individual on a public property?

4.11 Further Readings

1. G. Hegel, Philosophy of Right
2. Intellectual Property Law Journals
3. WIPO Intellectual Property Handbook, (2004); WIPO Intellectual Property Law: Introductory notes; *WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).

Unit 5

Ethical, Moral and Human Right Aspects of IPR

Objectives:

After going through this unit, you should be able to understand the ethical, moral and human right aspects of intellectual property rights and will understand whether the intellectual property rights stand in conformity with these aspects or are against them.

Structure:

- 5.1 Introduction
 - 5.2 Development of Intellectual Property Regimes
 - 5.3 Drafting of the Intellectual Property Provisions of UDHR and ICESCR
 - 5.4 A Human-Rights Approach to Intellectual Property
 - 5.5 General issues and problems
 - 5.5.1 *Inappropriate or Inadequate Protection of the Rights of the Author, Creator or Inventor*
 - 5.5.2 *Inadequate Protection of the Public Interest*
 - 5.5.3 *Differential Impact on Developed and Developing States*
 - 5.5.4 *Lack of democratic controls and participation*
 - 5.5.5 *Lack of Effective Incorporation of Ethical Concerns*
 - 5.6 Two defenses of the ethical legitimacy of IPRs
 - 5.7 Recommendations
 - 5.8 Summary
 - 5.9 Self -Assessment Test
 - 5.10 Further Readings
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5.1 Introduction

Just as raw materials and labour were key resources in the first industrial revolution, intellectual property is a central asset in information or knowledge based economy. Intellectual property is a generic term that refers to intangible objects, such as literary works, artistic productions, scientific discoveries, and

plans for inventions and designs, which acquire their value primarily from creative efforts. A recent book makes the claim, for example, that 'intellectual property and its conceptual neighbors may bear the same relationship to the information society as the wage-labour nexus did to the industrial manufacturing society of the 1900s'. Knowledge has been identified as a corporation's most valuable resource, the ultimate substitute for raw materials, labour, capital, and inputs. In the new global economy of ideas, ownership, control, and access to creative works and scientific knowledge have considerable economic import, giving rise to fierce competition over intellectual and creative works, or what one analyst describes as the 'knowledge wars'.

The manner in which creative works, cultural heritage, and scientific knowledge are turned into property has significant human-rights implications. The key international human-rights instruments have acknowledged that intellectual products have an intrinsic value as an expression of human creativity and dignity. Several enumerate the right of authors, creators, and inventors to some form of recognition and benefit from their intellectual products. Article 27 of the Universal Declaration of Human Rights (UDHR), states that 'everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'. This right is linked to another provision of Article 27: 'Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits'.

Building on Article 27 of the UDHR, the International Covenant on Economic, Social and Cultural Rights (hitherto ICESCR or the Covenant) has similar provisions. Article 15 (1) (c) requires States parties, the countries which have ratified this instrument, to recognize the right of everyone 'to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'. Also like the UDHR, other components of Article 15 link this obligation to the rights 'to take part in cultural life' and 'to enjoy the benefits of scientific progress and its applications'. To achieve these goals, the Covenant mandates that States parties undertake a series of steps. These include 'those necessary for the conservation, development, and diffusion of science and culture'. States parties are also directed to 'undertake to respect the freedom indispensable for scientific research and creative activity':

The centrality of intellectual property to almost every sphere of economic life means that international treaties, national legal codes, and judicial decisions about intellectual property can have significant ramifications for the protection and promotion of human rights. This is particularly the case for the economic, social, and cultural rights enumerated in the Covenant. Thus, as various economic actors rush to stake claims over creative works and forms of knowledge, human rights are being trampled. The creator risks losing control of their works. The free exchange of information so vital to scientific discovery is being constrained, and publicly held resources, including the cultural and biological heritage of groups, privatized. In recent years, industrialized countries, led by the United States, have pushed for increased global protection of intellectual property. The establishment of the World Trade Organization in 1994 and the enforcement of the International Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 1995 have strengthened the global character of intellectual property regimes. In the years ahead the provisions of TRIPS are likely to reshape intellectual property law and economic relationships within and across countries.

Unless human-rights advocates provide an effective intellectual and organizational counterweight to economic interests, the intellectual property landscape will be reshaped in the years ahead without adequate consideration of the impact on human rights. The development of a global economy in which intellectual property plays a central role underscores the need for the human-rights community to claim the rights of the author, creator and inventor, whether an individual, a group, or a community, as a human right. It is equally important for human-rights advocates to protect the moral interests and rights of the community to secure access to this knowledge. Yet another human-rights consideration is whether relevant laws identifying rights to creative works and scientific knowledge and determining the nature of the subject-matter which can be claimed as intellectual property are consistent with respect for human dignity and the realization of other human rights. Noting that actual or potential conflicts exist between the implementation of the TRIPS Agreement and the realization of economic, social and cultural rights, the United Nations Sub-Commission on the Promotion and Protection of Human Rights adopted a resolution addressing this topic at its August 2000 session. The resolution affirms that the right to protection of the moral and material interests

his/her invention. Generally laws require that, in order to be eligible for patent protection, an invention must meet several criteria:

- (a) the invention must be new or novel;
- (b) it must be non-obvious (or involve an inventive step); and
- (c) it must be useful or industrially applicable.

Patenting regimes also generally exclude certain specific kinds of inventions from the possibility of patenting. This may be because certain types of objects are considered inappropriate for private ownership or for ethical reasons. For example, TRIPS, building on the precedent of the European Patent Convention Agreement, allows members to exclude subject-matter from patenting 'to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment'.

A trademark is a sign or name that individualizes the goods of a given enterprise so as to identify the source and thereby distinguish the items from the goods of competitors. Like patents, a trademark can be registered with the competent government authority, which in most countries is the same as the authority that processes patent applications.

Intellectual property law was developed on a national basis, with considerable diversity in the nature and stringency of protections. As international commerce increased during the nineteenth century, however, States became interested in developing some forms of international collaboration and harmonization. At first, countries concluded a series of bilateral agreements, but this was cumbersome and often ineffective. The next step was the formulation of two major agreements that provided international standards. These were the Paris Convention of 1883 for industrial property (patents and trademarks) and the Berne Convention of 1886 for the protection of literary and artistic works (copyright or author's rights), both of which were subsequently revised several times. Nevertheless, many countries chose not to abide by these agreements and suffered few ill consequences. The United States only ratified the Berne Convention in 1989. Although international secretariats were established for both the Paris and the Berne conventions and then merged to form a United International Bureau for the Protection of Intellectual Property eventually to be superseded by the World Intellectual Property Organization. The enforcement mechanisms were very weak.

In contrast, the TRIPS Agreement, which was a product of the Uruguay Round of trade talks, is binding *in toto* on all members of the World Trade Organization. It sets mandatory minimum standards for national protection of intellectual property that require States to implement a common and often expanded set of intellectual property protections. It also imposes enforcement measures, including potential trade sanctions against nations that do not comply with these standards.

Not only have intellectual property regimes become globalized, the scope of the subject-matter has also been expanded. This has occurred in several ways. First, restrictions and limitations that previously excluded specific types of subject-matter from patenting have been eliminated. The patenting of biological entities constitutes one example. Prior to 1980, some 200 years of legal doctrine conceptualized life-forms as 'products of nature' rather than as a human invention and therefore unable to meet the three criteria for patents: novelty, utility and non-obviousness. These standards were overturned by a landmark US Supreme Court decision, *Diamond v. Chakrabarty*, which ruled that a genetically modified strain of bacteria capable of degrading components of crude oil was patentable as a new and useful manufacture or composition of matter. Subsequently, the US Patent and Trademarks Office, followed by the European and Japanese patent offices, began to grant biotechnology patents on new plant varieties, non-naturally occurring non-human multi-cellular living organisms, including animals, and discoveries of naturally occurring human gene sequences. Other extensions of protected subject-matter have resulted from adapting legal instruments to fit new situations and technologies, as for instance, efforts to extend copyright print protections into the digital domain. A third trajectory is the expansion of private intellectual property claims into areas that formerly were part of the public domain, such as the privatization of works of cultural heritage and the biological and ecological knowledge of traditional peoples.

5.3 Drafting of the Intellectual Property Provisions of UDHR and ICESCR

The drafters of the UDHR and ICESCR decided to recognize the intellectual property claims of authors, creators, and inventors as a human right. Why did they decide to do so? How did they conceptualize this right? And was it just accidental that drafters of both documents link the intellectual property claims of authors and

creators with the rights to participate in cultural life and to enjoy the benefits of scientific progress and its applications, or did they understand the three to be intrinsically interconnected?

According to Johannes Morsink's account of the drafting history of Article 27 of the UDHR, there was not much disagreement over the notion of the right of everyone to enjoy the benefits of scientific advances and to participate in cultural life. In contrast, the discussion of intellectual property issues evoked considerably more controversy. This pattern was to reoccur when the United Nations Economic and Social Council (ECOSOC) took up the drafting of a covenant on human rights based on the UDHR.

A review of the *travail preparatory* of the drafting committee for the UDHR operating under the aegis of the United Nations Commission on Human Rights indicates that the initial discussions of author's rights introduced by the French delegation were concerned primarily with two issues. The first was the moral right of an author to control alteration and other misuses of the creation. The second was the right of authors and creators to remuneration for their labour. An important factor influencing the inclusion of author's rights as a basic human right was that the American Declaration on the Rights and Duties of Man adopted earlier in the year (1948) contained a provision on intellectual property. Article 13 of the American Declaration states that:

"Every person has the right to take part in the cultural life of the community, to enjoy the arts, and to participate in the benefits that result from intellectual progress, especially scientific discoveries. He likewise has the right to the protection of his moral and material interests as regards his inventions or any literary, scientific or artistic works of which he is the author."

Mexican and Cuban members of the UDHR drafting committee, supported by the French delegation, introduced language on author's rights so as to harmonize the Universal Declaration with the American Declaration. The Mexican representative argued that the United Nations needed the moral authority to protect all forms of work, intellectual as well as manual, so as to safeguard intellectual production on an equal basis with material property.

The provision on intellectual property was rejected in the Commission on Human Rights but passed in the Third Committee. It survived objections that intellectual

property was not properly speaking a basic human right. Others also argued that intellectual property needed no special protection beyond that afforded generally by property rights (already in Article 17 of the Universal Declaration), as well as claims by other members of the drafting committee that special protection for intellectual property entailed an elitist perspective. Apparently the motives of those who voted for adoption of the intellectual property provision were mixed. Some voted for the provision on the 'moral rights' issue. Others sought to support efforts to internationalize copyright law, already given a boost by the Berne International Copyright Convention, adopted earlier that year. The text of Article 15 of the ICESCR closely resembles Article 27 of the UDHR. Like the UDHR it has three components dealing with right to culture, scientific advancement, and intellectual property. However, there was nothing automatic about carrying over the three provisions of the UDHR. The drafting of the Covenant involved heated debate about whether to include the intellectual property provision.

In 1951, when the Commission was beginning to consider the inclusion of economic, social and cultural rights provisions into a single planned draft covenant on human rights, UNESCO presented the Commission with draft language of a proposed provision on cultural rights. UNESCO provided two different versions of the proposed article, one longer and more comprehensive than the other. Both the longer and shorter drafts contained language about rights to culture, scientific advancement, and intellectual property.

A year later, in May 1952, the Commission took up this provision again, this time in the context of a separate Covenant on Economic, Social and Cultural Rights. The French delegation resubmitted a provision containing intellectual property protection. But the American delegation, still represented by Eleanor Roosevelt, argued that the issue was too complex to be dealt with in the Covenant. Her position was supported by the United Kingdom and Yugoslavia. The UNESCO representative again advocated for including an intellectual property provision in the Covenant. In the discussion, the Chilean delegation raised the issue of the disadvantage of underdeveloped countries stemming from their inability to take out patents and thereby compete in scientific research. The Australian representative argued that it was inadvisable to provide for the protection of the author without also considering the rights of the community. At this stage, the provision on author's rights was rejected.

Thus the draft Covenant submitted to the twelfth session of the Third Committee of the General Assembly by the Commission on Human Rights in the autumn of 1957 lacked the language of what was to become 15 (1) (c) recognizing the rights of authors and creators. In the initial discussions, there was strong support for the provisions related to the right to take part in cultural life and to enjoy the benefits of scientific progress, but not for author's rights. The French delegation again argued in favour of the inclusion of an intellectual property provision. The representative of UNESCO advised that intellectual property rights be restored. Statements of support also came from a variety of delegations on the grounds of encouraging culture and science and not dropping a principle already recognized in the Universal Declaration. The USSR and the socialist bloc, reflecting their socialist interests and the dynamics of the Cold War, however, strongly objected to incorporating the provision on intellectual property. They argued that the people's right to benefit from science should not become intermixed with property rights. The representative of the Soviet Union claimed that author's rights were too complicated and varied to draw up a clause that would be valid for all States. The socialist bloc's opposition to property rights had already played a major role in the decision of the Covenant's drafting committee to drop the text of Article 17 of the UDHR recognizing the right to tangible forms of property in the Covenant.

The Uruguayan and Costa Rican delegates co-sponsored an amendment reinserting the intellectual property provision arguing for it on several grounds: the UDHR already recognized this right; by incorporating the provision the work of UNESCO in this area would be given new impetus and prestige; the right of the author and the right of the public were complementary, not opposed; and respect for the right of the author would assure the public of the authenticity of works presented to it. A statement by the Israeli delegate went further. He argued that 'it would be impossible to give effective encouragement to the development of culture unless the rights of authors and scientists were protected'. In the end, of course, the arguments of those defending author's rights won the day. The final vote on the provision was 39 to 9 with 24 delegations abstaining. This history underscores four points. The first is the relatively weak claims of intellectual property as a human right. The provision on author's rights was included in the UDHR and the Covenant only after considerable discussion and controversy. In both cases the intellectual property components of articles were supported primarily because of

their instrumental character in realizing other rights, which were seen as having a stronger moral basis.

The second point is that the three provisions of Article 15 in the ICESCR were viewed by drafters as intrinsically interrelated to one another. Three major human-rights instruments – the American Declaration, the UDHR, and the Covenant – enumerate these rights as components of a single article. The rights of authors and creators are not just good in themselves but were understood as essential preconditions for cultural freedom and participation and access to the benefits of scientific progress. The third point is that human-rights considerations impose conditions on the manner in which author's rights are protected in intellectual property regimes. To be consistent with the provisions of Article 15, intellectual property law must assure that intellectual property protections complement, fully respect, and promote other components of Article 15. Put another way, the rights of authors and creators should facilitate rather than constrain cultural participation on the one side and broad access to the benefits of scientific progress on the other. And fourthly, the discussion of the intellectual property provisions did not provide a conceptual foundation for interpreting this right. To put the matter another way, the drafters did not delineate the scope and limits of author's rights. Considerations at all levels of drafting focused primarily on whether an intellectual property provision should be included and not its substance and implications.

5.4 A Human-Rights Approach to Intellectual Property

Very little attention has been paid to the interpretation of intellectual property as a human right. The human-rights community has neglected Article 27 of the UDHR and Article 15 of the Covenant. Indigenous-rights advocates have constituted the major exception. There is very little literature conceptualizing the scope of Article 15 of the Covenant and the concomitant obligations of States parties. The Committee on Economic, Social and Cultural Rights, the United Nations treaty monitoring body overseeing ICESCR, rarely deals with intellectual property issues. It held its first review of intellectual property in a day of general discussion devoted to this subject in November 2000. Although there is a considerable body of legal practitioners dealing with intellectual property, they tend to focus on commercial issues and rarely address the ethical and human rights dimensions of intellectual property regimes.

Nevertheless, it is clear that intellectual property conceptualized as a universal human right differs in fundamental ways from its treatment as an economic interest under intellectual property law. It is believed that there are several considerations. In contrast to the individualism of intellectual property law, a human-rights approach also recognizes that an author, artist, inventor, or creator can be a group or a community as well as an individual. A human rights orientation acknowledges that intellectual products have an intrinsic value as an expression of human dignity and creativity. Put another way, artistic and scientific works are not first and foremost economic commodities whose value is determined by their utility and economic price tag.

A human rights approach also takes the implicit balance between the rights of inventors and creators and the interests of the wider society within intellectual property paradigms and makes it far more explicit and exacting. A human-rights orientation is predicated on the centrality of protecting and nurturing human dignity and the common good. By extension, the rights of the creator or the author are conditional on contributing to the common good and welfare of the society. The wording of Article 15 is noteworthy: States parties are directed to ensure that everyone will be able 'to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'. This is far short of vesting creators, authors, and inventors with full and unrestricted monopoly property rights.

A human rights approach also establishes a different and often more exacting standard for evaluating the appropriateness of granting intellectual property protection to a specific artistic work, invention or set of knowledge than those specified under intellectual property law. Intellectual property law generally emphasizes originality as a basis for determining eligibility for copyright protection; to be eligible for patent protection an invention or discovery must meet the criteria of novelty, utility and non-obviousness. In order for intellectual property to fulfill the conditions necessary to be recognized as a universal human right, however, intellectual property regimes and the manner they are implemented first and foremost must be consistent with the realization of the other human rights, particularly those enumerated in the Covenant.

A human-rights approach must be particularly sensitive to the inter-connections between intellectual property and the rights 'to take part in cultural life' and 'to

enjoy the benefits of scientific progress and its applications'. To be consistent with the full provisions of Article 15, the type and level of protection afforded under any intellectual property regime must facilitate and promote cultural participation and scientific progress and do so in a manner that will broadly benefit members of society both on an individual and collective level. These considerations go well beyond a simple economic calculus often governing intellectual property law.

A human-rights approach further establishes a requirement for the State to protect its citizens from the negative effects of intellectual property. To do so, governments need to undertake a very rigorous and disaggregated analysis of the likely impact of specific innovations, as well as an evaluation of proposed changes in intellectual property paradigms, and to utilize these data to assure *nondiscrimination in the end result*. When making choices and decisions, it calls for particular sensitivity to the effect on those groups whose welfare tends to be absent from the calculus of decision-making about intellectual property: the poor, the disadvantaged, racial, ethnic and linguistic minorities, women, rural residents.

The human-rights principle of self-determination as enunciated in Article 1 (1) of the Covenant and reflected in the civil and political rights defined in the International Covenant on Civil and Political Rights emphasizes the right of all members of society to participate in a meaningful way in deciding on their governance and their economic, social and cultural development. This translates into a right to societal decision-making on setting priorities for and major decisions regarding the development of intellectual property regimes. To achieve in practice, it requires open and democratic political institutions that can adapt to technological change.

5.5 General issues and problems

As noted above, current developments related to intellectual property are often inconsistent with a human rights approach. Yet the absence of accepted human rights standards for Article 15 suggests that they may more appropriately be characterized as problems than as violations. This section will outline some of these issues.

5.5.1 Inappropriate or Inadequate Protection of the Rights of the Author, Creator or Inventor

Recognition of the claims of authors, creators, and inventors to moral and material benefit from their intellectual contributions is central to conceptualizing intellectual property as a human right and also serves as the major premise of intellectual property regimes. Therefore the manner in which intellectual property regimes determine eligibility for this entitlement is very significant. Current intellectual property law is problematic in a number of ways. In many countries, the person filing the first intellectual property claim to a particular work is considered eligible for recognition as the owner. The first filer, however, may not be the true author of a work.

Intellectual property law is constructed around an eighteenth-century paradigm of the author or creator as a single, solitary figure. But this image often does not fit developments in the contemporary world. In science and technology, for example, researchers often work in large teams and collaborate across national boundaries. Scientific knowledge is additive; discoveries and inventions build on work by others conducted over a long period of time. This means that it is frequently difficult to separate out the relative contributions of various researchers. The many legal suits by members of research teams contesting ownership and control of patents reflect this dilemma.

Current intellectual property regimes, which were developed to suit the needs of an age of printing, are often inadequate to deal with the challenges of new technologies. Intellectual property law generally assumes that there are practical limits on the ability to copy and distribute information or works of art. The advent of photocopying and audio- and videotaping began to change the balance between the owners' and users' rights by facilitating the reproduction and dissemination of publications outside the control of the intellectual property owner. The development of computer technology and the Internet has further complicated the protection of intellectual property. Once information is available in electronic form it can be distributed to a worldwide audience at little additional cost. The legal controversy over whether Internet sites, such as Napster, which facilitate the trading of electronic copies of music, are engaging in copyright infringement is but one indication of the need for rethinking approaches to intellectual property protection. Efforts to develop standards for electronic publications that will protect the interest of authors and the integrity of their works are another. On the other side of the issue, some corporate interests have sought new and stricter intellectual

property protections which would reduce scientific and public access to resources. The European Union, for example has passed legislation creating a *sui generis* form of intellectual property to protect database rights and in 1996 proposed that WIPO adopt a treaty on intellectual property protection for databases. The American scientific community vigorously opposed this draft treaty and efforts to legislate similar protections in their own country arguing that it would undermine the ability of researchers and educators to access and use scientific data.

Because the current system of intellectual property is built around the idea of originality, traditional/indigenous knowledge and art forms cannot meet the criteria for copyright or patenting.

5.5.2 Inadequate Protection of the Public Interest

Traditionally, intellectual property regimes sought to balance the rights of creators with the interests of the public to have access to artistic works and technology products. The very existence of intellectual property rights was originally justified on the grounds that incentives and rewards to artists and inventors result in benefits to society. However, current developments tend to weaken these balances and to skew the system in favour of a much narrower range of interests. Commercialization has changed intellectual property from a means to provide incentives to researchers and inventors to a mechanism intended to encourage investment and protect the resources of investors. The privatization of the public domain reflects this transformation. Preserving the public domain is important because it serves as a resource for future creators and as raw material for the market-place of ideas.

5.5.3 Differential Impact on Developed and Developing States

The TRIPS Agreement requires all signatories to develop strong intellectual property protections. The year 2000 was the deadline for developing countries to comply; the least developed countries were allowed an additional five years. It is claimed that such stronger intellectual property protection will contribute to increased investment in research and development, but there is little empirical evidence, even in industrial countries, that this is necessarily the case. While the patent system appears to have stimulated the development of new products and technologies in a few sectors, such as pharmaceuticals, in other sectors patents are

often considered to have anti-competitive effects and may even slow the pace of innovation.

Moreover, strict intellectual property models appropriate for advanced market economies are likely to disadvantage less developed countries. Despite the large number of developing countries decided to accede to TRIPS so as to attract foreign investment and to be considered eligible for technology transfers, developing countries generally believe that it is not in their economic interests to implement stronger patent laws. This is because intellectual property protection usually increases the cost of development. In the global economy, industrial countries currently hold 97 per cent of all patents worldwide. More than 80 per cent of the patents granted in developing countries belong to residents of industrial countries, usually multinational corporations from the most advanced economies. Indeed 70 per cent of global royalty and licensing fee payments are between parent and affiliate in multinational corporations. This means that under strict enforcement of intellectual property law that the patents awarded and resulting payments for the use of these technologies will primarily benefit foreign multinational corporations and not stimulate local research and innovation.

Moreover, few countries in the South have the requisite infrastructure to uphold strong patent systems. The lack of a strong regulatory infrastructure also puts these countries at a disadvantage in shaping their laws to benefit from the openings that the TRIPS Agreement offers for countries to shape their patent laws to fit their needs.

5.5.4 Lack of democratic controls and participation

Today, however, technology is leading rather than being shaped by governmental policy. The concentration of power in transnational corporations and these corporations' ability to find a common interest with personnel in patent offices and other government departments that shape and administer intellectual property regimes weakens the democratic process. Pressures imposed by economic globalization are shifting the balance even further away from citizens' control. One study describes the situation with regard to the formulation of intellectual property law as follows:

“Intellectual property laws are defined through closed, secretive international negotiations dominated by industry – and are then brought

to national legislatures as faits accomplis, without democratic deliberation. Combined with the technical, arcane nature of intellectual property legal specialty, this has helped corporate interests to avoid public scrutiny and expand their control over developments in applications such as electronic information, biotechnology or pharmaceuticals. Industrial country governments promote corporate interests in expanded intellectual property rights in the name of maximizing national competitiveness in a global market-place.

The World Trade Organization's role in standard setting, particularly in light of the closed nature of its proceedings and its lack of concern for democratic procedures or human-rights principles, has been of particular concern to many non-governmental organizations, human-rights advocates, and environmental groups. The TRIPS Agreement not only sets minimum standards for national protection of intellectual property rights. It also imposes enforcement measures through an integrated dispute settlement system. A country that does not fulfill its intellectual property obligations faces the possibility of having trade sanctions applied against it. The power of the WTO has been described as 'unprecedented in the field of intellectual property protection'.

5.5.5 Lack of Effective Incorporation of Ethical Concerns

A human-rights approach conditions intellectual property regimes on their conformity with ethical and human-rights principles. Some systems of patent law also explicitly require decision makers to consider moral standards as part of the process of evaluating applications. Nevertheless, morality has generally been given little import or ignored completely by those who have interpretive custody of the patent system. In part, this reflects the reluctance of patent officers to inject ethical considerations into their work. The patent community generally takes the position that morality has little to do with patent reviews, or, if it does, that the patent system is the wrong place to consider such issues. Patent officers are more likely to consider themselves as serving the business community with a mandate to issue as many patents as possible. Their goal is to encourage the development of science and technology and the competitive position of the country in a globalized economy.

The patenting of life is a prime example. The landmark United States Supreme Court decision in *Diamond v. Chakrabarty* that extended patent eligibility to life-forms, as long as they were altered or purified in some way, had significant ethical implications. Yet, the court explicitly refused to take ethical factors into account in rendering a decision that has affected patent policy around the world. Instead, the court assigned responsibility for such matters of 'high policy' as the purview of political bodies, particularly in this case the US Congress. The dilemma is that political bodies generally prefer not to deal with patent policy. Thus the US Congress has never debated the appropriateness of granting life patents, and the US Patent and Trademark Office has been free to set policy without any meaningful ethical oversight by the courts or political representatives.

Many groups within the religious, environmental and traditional-rights communities have expressed ethical concerns about the patenting of life-forms. Rather than expressing an anti-technology position, this opposition often reflects a conviction that biological patents constitute a threat to the dignity and sanctity of life. However, such groups have had little means of changing patent policies.

5.6 Two Defenses of the Ethical Legitimacy of IPRs

Traditionally, two distinct lines of thought have been fielded for the suggestion that IPRs including those on socially valuable goods are ethically justifiable. One line of thought appeals to a natural right of an inventor to control the use of her innovations. This is the libertarian defense of IPRs which has its historical roots in the writings of John Locke (Locke 1690). Robert Nozick has in more modern times been an advocate for this line of thought (Nozick 1974). The libertarian view endows individuals with a natural right of appropriation. This is the idea that any innovator/worker who mixes her labor with a previously un-owned object or natural resource comes to own this object or resource in full and can legitimately deny that other people use/appropriate this object or resource (though she is free to sell or give away this object or natural resource to any party of her choice).

The natural right of appropriation central to libertarianism has an important proviso (famously formulated by Locke) which is an 'enough and as good' clause on original appropriation. The proviso states that one can only appropriate un-owned property if one leaves enough and as good for others. Where resources are scarce, one cannot legitimately stake a claim to something by annexing one's labour to it.

Neither can one come to own the scarce resource by enhancing its value. If the resource is necessary for the continued well-being of others, then the fact that x was the one who developed or improved the resource does not give x exclusive rights over it. x's entitlement to reward for her labour is overridden by the entitlement of others to that which is necessary for their survival.

On the libertarian view, there is no morally relevant difference between, say, a farmer who mixes her labour with the land and thereby come to own the results of this interaction (the timber, the harvest, the fruits, etc.) and a medical researcher who mixes her labour with certain chemicals and thereby come to own the results of the interaction (physical objects and an intellectual idea/formula for an useful drug). Provided that the farmer and the medical researcher pay heed to the Lockean proviso, they both come to enjoy a strong property right on the objects that result from their mixing their labour with un-owned natural resources. This natural property right is, moreover, to be written into the legal framework and enforced by the proper authorities (police and courts of law). Libertarians can therefore see trade agreements such as TRIPS as a legitimate legal enforcement of a pre-existing natural/moral right.

The libertarian defense of IPRs has recently come under attack. The objection is that libertarianism, with its strong emphasis on rights to individual freedom and private property, is inconsistent with IPRs. What such rights do is namely to enable individuals (innovators) to unilaterally place limits on the personal freedom of others and on what they may do with property they have legitimately acquired. IPRs on a particular medicine is for example a de facto legal limitation on what other people may do with their legitimately acquired possessions (chemicals), and this is not something that libertarianism can consistently sanction.

At its best, what the libertarian argument can yield is only that medical innovators have strong property rights on the concrete, physical tokens of their innovation (pills, powders, liquids etc.). The argument cannot yield the conclusion that innovators also have property rights on the idea/formula for the medicine. Here is how Pogge and Hollis themselves formulate the thought:

The fact that others have invented a new dance or dish or gadget or medicine gives them no right to restrict what you may legitimately do with your body and property. So long as you have violated no rights in learning about the invention and have not contracted otherwise, you

are within your rights when you try to copy their dance (with a willing partner) or try to reproduce their dish, gadget or medicine from materials you legitimately own.

Whether or not this objection against the libertarian defense for IPRs succeeds is a complicated question. In one view, defenders of IPRs need not, however, pre-occupy themselves onerously with finding an answer to it. The reason for this is that such defenders are not best advised to try to back up their view with the libertarian argument. A better defense for IPRs is likely to be found by exploring a consequentiality line of thought that appeals to the social utility of IPRs. The general idea is here that IPRs are ethically justifiable because they incentivize innovative R&D which in turn increases overall human welfare.

Alex Rosenberg has presented an argument that is based on this line of thought. The argument is broad in scope in the sense that it defends the ethical permissibility of IPRs on all innovations. Two important premises of Rosenberg's argument are that good ideas are the only factor of production that does not suffer from diminishing marginal productivity and that welfarism should be employed as the normative basis for institutional design. Welfarism is a form of consequentialism that states that the morally best course of action, policy or institution is the one that maximizes future human welfare. One might think that welfarism has to be opposed to the ethical legitimacy of IPRs due to the access problem caused by such rights. However, as Rosenberg correctly observes, welfarism only mandates an abrogation of IPRs if the time frame within which human welfare is calculated is narrowed arbitrarily. It is correct that in the immediate and near term, human welfare is best served by abrogating IPRs, but once the horizon is lengthened, it is not at all obvious that human welfare is best served by such a legislative step.

The source of the complication is threefold:

- (i) Once the IPR on a given product is abrogated in order to meet the needs of those who cannot pay monopoly prices for the product, disincentive effects on investment in innovation set in.
- (ii) Such effects will be long lasting or even permanent.
- (iii) Scientific innovations are essentially completely unpredictable and more consequential in their welfare enhancing effects than any other human activity.

These features of scientific innovation have as a result that the medium term and long term cost of abrogating IPRs is impossible to quantify or measure in detail. There is, however, reason to believe that the cost is huge and that it will exceed the immediate and short term benefits of abrogating IPRs.

Rosenberg offers a semi-technical argument for this claim. Assume that the population of the world will reach a fixed upper limit within the next half century and then remain there. Assume also that the total quantity of arable land, refutable mineral and non-mineral reserves and so on will remain fixed thereafter. Now, attach a number to the total level of welfare that exists at this generation: 100 units of welfare (distributed **unequally among**, say, ten billion people). Assume that the unequal proportions **remain constant** while the total welfare increases in each subsequent 20-year generation by 10% as a result of the **continued emergence and implementation of patented innovations**. At generation two, the index number for welfare is 110, at generation six, it is 161.05, and at generation twelve, it is 285.3.

Suppose, however, that there is an outbreak of a serious disease in generation one **and that some IP protected drug is necessary in order to bring the epidemic under control**. Society cancels the IPR on the drug in question, and as a result of this, **there is a 20% increase in welfare in generation two and a decline from 10% to 9% in per generation welfare increases thereafter; this decline is due to the chilling effect on innovation that the abrogation of the IPR in generation one brought about**. Now, at generation two, the welfare index is at 120. At generation six, it is 169.39, but at generation twelve, the index is at 284.08. So, if one calculates human welfare over a twelve generation time span or any longer time span, it turns out that welfarism cannot sanction the abrogation of the IPR in question.

Sonderholm contains a discussion of Rosenberg's argument. Two objections to the argument are raised and rejected. The first objection is that since we cannot predict what will happen in the future, it makes no sense to suggest that one course of action is preferable to another because the medium and long term consequences of the former are better in a particular dimension than those of the latter in the same dimension. The second objection is that the argument expressive of a cynical and/or heartless standpoint that is not troubled by the large scale and immense suffering that is occurring in developing countries due to a lack of access to expensive IP protected drugs.

The first objection is not convincing given that the process of weighing immediate benefits with respect to human welfare against medium to long term benefits along the same dimension is one we engage in all the time. Consider, for example, our attempts to safely store nuclear waste, to cut emission of greenhouse gases and to recycle trash. If we find that these attempts are not senseless, we do so exactly on the assumption that it is reasonable to compare the immediate benefits in terms of human welfare that arise from not attempting these things with the medium to long term benefits in terms of human welfare that arise from attempting them. Moreover, most of us are willing to forego the immediate benefits that stem from not attempting to do any of these things in order to reduce or eliminate medium to long term costs.

The second objection is misguided and ironic given that the very core of the welfarist position is the idea that the morally right course of action, institution or policy is the one that maximizes future human welfare that is, minimizes future human ill-fare. The consistent welfarist is moved by the scale of human suffering in low-income countries due to the combination of disease and the access and availability problems together with a host of other social, economic and cultural factors. But she is also moved by future human suffering caused by existing and new diseases, and it is because she is not prepared to prioritize the alleviation of current human suffering over the alleviation of greater, future human suffering that she is opposed to the abrogation of IPRs for drugs.

The second objection, moreover, assumes that the only way of making drugs available to those low-income populations that need them is by abrogating IPRs for such drugs. This assumption is, however, false. It is a fallacy of false alternatives to suggest that either IPR for such are abrogated or such drugs cannot be made available to those who need them. There are alternative ways of making such drugs available to those who need them and thereby ease the access problem and the suffering that accompanies it. Trade barriers that make it impossible for developing countries to sell their products in the developed world could be eradicated. Such a move will most likely lead to a dramatic increase in the earnings of developing countries, and given that these countries are prepared to spend some, if not all, of these earnings on the welfare of their citizens, there would be a significant amount of resources available for the purchase of relevant drugs.

The above considerations conclude the overview of the main ethical issues surrounding IPRs and some of the attempts to alleviate the problems that stem from such rights.

5.7 Recommendations

The recent Sub-Commission resolution on 'Intellectual Property and Human Rights' makes a number of specific recommendations that are important to implement which pertain to governments and United Nations bodies. These include the following:

- The resolution requests governments to protect the social functions of intellectual property in accordance with international human-rights obligations and principles. One way to do so would be to have a mechanism for a human rights review/appeal of decisions by patent and copyright procedures.
- The resolution also requests intergovernmental organizations to integrate international human-rights obligations and principles into their policies, practices, and operations.
- It further requests the WTO in general and the Council on TRIPS more specifically to take fully into account existing state obligations under international human-rights instruments during its ongoing review of the TRIPS agreement. For this to happen in a meaningful way, however, it would first be necessary to gain recognition for the principle that human rights are fundamental and prior to free trade itself. Two experts have recently proposed that the interpretation of the primacy of human rights over trade liberalization is consistent with the trade regime on its own terms.
- The resolution calls for a number of studies and reports. More specifically, it asks that the Special Rapporteurs on globalization and its impact on the full enjoyment of human rights to include consideration of the human rights impact of the implementation of the TRIPS Agreement in their next report. It requests that the United Nations High Commissioner for Human Rights to undertake an analysis of the human-rights impacts of the TRIPS Agreement. The resolution also identifies a series of United Nations Agencies, including the World Intellectual Property Organization, the World Health Organization, the United Nations Development Programme, and the United Nations Environment Programme, and

points to the need for them to continue and deepen their analysis of the impacts of the TRIPS Agreement, including a consideration of its human-rights implications. And it asks the Secretary- General to provide a report on this issue at its next session.

- Significantly, the Sub-Commission encourages the Committee on Economic, Social and Cultural Rights to clarify the relationship between intellectual property rights and human rights, including through the drafting of a general comment on this subject.

5.8 Summary

The manner in which creative works, cultural heritage, and scientific knowledge are turned into property has significant human-rights implications. The key international human-rights instruments have acknowledged that intellectual products have an intrinsic value as an expression of human creativity and dignity. Several enumerate the right of authors, creators, and inventors to some form of recognition and benefit from their intellectual products. Article 27 of the Universal Declaration of Human Rights (UDHR), states that 'everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'. This right is linked to provision of Article 27: 'Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits'. The International Covenant on Economic, Social and Cultural Rights has similar provisions. Article 15 (1) (c) requires States parties, the countries which have ratified this instrument, to recognize the right of everyone 'to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'.

These two Articles form the basis of human right aspect of IPRs. Still they were ratified to recognize the right of everyone 'to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author'. Also like the UDHR, other components of Article 15 link this obligation to the rights 'to take part in cultural life' and 'to enjoy the benefits of scientific progress and its applications'. To achieve these goals, the Covenant mandates that States parties undertake a series of steps. These

include 'those necessary for the conservation, development, and diffusion of science and culture'. States parties are also directed to 'undertake to respect the freedom indispensable for scientific research and creative activity'.

There are few general problems and issues regarding human right aspects of IPRs like; inappropriate or inadequate protection of the rights of the author, creator or inventor; inadequate protection of the public interest; etc. Two distinct lines of thought have been fielded for ethical legitimacy of IPRs. One line of thought appeals to a natural right of an inventor to control the use of her innovations. This is the libertarian defense of IPRs which has its historical roots in the writings of John Locke. The second one is a consequentiality line of thought that appeals to the social utility of IPRs. The general idea is here that IPRs are ethically justifiable because they incentivize innovative R&D which in turn increases overall human welfare. The recommendations given by Sub-Commission resolution on 'Intellectual Property and Human Rights' if applied properly will also help to curb the ethical, moral and human right aspects of IPRs.

5.9 Self -Assessment Test

1. Do the drafters of the UDHR and ICESCR have given recognition intellectual property rights as human rights? Give reasons.
2. Describe the development of IPRs in relation to ethical, moral and human right aspects.
3. Discuss the general issues and problems related to intellectual property rights. Can these be characterized as problems than as violations?
4. Explain the two theories of ethical legitimacy of IPRs.
5. Give an account of suggestions given by Sub-Commission resolution on 'Intellectual Property and Human Rights'.

5.10 Further Readings

1. Seth Shulman, *Owning the Future*.
2. Intellectual Property Law Journals.
3. WIPO Intellectual Property Handbook, (2004); WIPO Intellectual Property Law: Introductory notes; *WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).

4. Universal Declaration of Human Rights, adopted 10 December 1948 and International Covenant on Economic, Social and Cultural Rights, adopted 16 December 1966.

Unit 6

IPR and Development

Objectives:

After going through this unit, you should be able to understand that how intellectual property is related to development and what is the impact of protection of intellectual property on the development.

Structure:

- 6.1 Introduction
 - 6.2 The Purposes and Mechanisms of Intellectual Property Rights
 - 6.3 Endogenous IPRs
 - 6.4 Positive Impacts of IPRs on Development
 - 6.5 Negative Impacts of IPRs on Development
 - 6.6 Evidence on the Overall Impact of IPRs on Growth
 - 6.7 Benefiting from Intellectual Property Rights
 - 6.8 Implementing Pro-competitive IPRs Standards
 - 6.9 Enhance Capacities to Develop and Use of IPRs
 - 6.9.1 *Promote Competitive Markets*
 - 6.9.2 *Develop Competition Policies*
 - 6.10 Summary
 - 6.11 Self-Assessment Test
 - 6.12 Further Readings
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6.1 Introduction

The question of how intellectual property rights (IPRs) affect the processes of economic development and growth is complex and based on multiple variables. The effectiveness of IPRs in this regard depends considerably on particular circumstances in each country. While economists are devoting more attention to this issue, evidence to date is fragmented and somewhat contradictory, in part because many of the concepts involved are not readily measured. As discussed below, stronger systems for protecting intellectual property could either enhance or

limit economic growth, in theory. Nevertheless, evidence is emerging that stronger and more certain IPRs could well increase economic growth and foster beneficial technical change, thereby improving development prospects, if they are structured in a manner that promotes effective and dynamic competition.

As the global protection regime strengthens due to implementation of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), concluded under auspices of the World Trade Organization, numerous questions arise about impacts on prospects for economic growth. For many reasons, it is impossible to claim confidently that the new regime will raise growth and improve economic development processes. Two such reasons are paramount. First, many other variables affect growth in ways that could dominate the impacts of IPRs. Such elements include macroeconomic stability, market openness, policies for improving the economy's technological infrastructure, and the acquisition of human capital. Second, economic theory points out that IPRs could have many effects on growth, some positive and some negative. Further, the significance of these effects would be dependent on circumstances in each country. However, in a broad setting of appropriate complementary policies and transparent regulation, IPRs could play an important and positive role in promoting economic growth. Indeed, the system of IPRs itself may be structured in particular ways to favor dynamic competition within a system of rights and obligations.

Intellectual Property Rights and Economic Development

Before considering how IPRs influence economic activity and growth, consider their intended roles in the economy. Economic analysis of IPRs is utilitarian, asking whether the benefits of any system outweigh its costs, both in static and dynamic terms. The anticipated benefits and costs depend on characteristics of markets, products, and social institutions. Thus, a "one size fits all" approach to harmonizing international IPRs makes little economic sense.

6.2 The Purposes and Mechanisms of Intellectual Property Rights

There are two central economic objectives of any system of intellectual property protection. The first is to promote investments in knowledge creation and business innovation by establishing exclusive rights to use and sell newly developed

technologies, goods, and services. Absent such rights, economically valuable information could be appropriated without compensation by competitive rivals. Firms would be less willing to incur the costs of investing in research and commercialization activities. In economic terms, weak IPRs create a negative dynamic externality. They fail to overcome the problems of uncertainty in R&D and risks in competitive appropriation that are inherent in private markets for information.

The second goal is to promote widespread dissemination of new knowledge by encouraging (or requiring) rights holders to place their inventions and ideas on the market. Information is a form of public good in that it is inherently non-rival and, moreover, developers may find it difficult to exclude others from using it. In economic terms it is socially efficient to provide wide access to new technologies and products, once they are developed, at marginal production costs. Such costs could be quite low for they may entail simply copying a blueprint or making another copy of a compact disk or video.

There is a fundamental tradeoff between these objectives. An overly protective system of IPRs could limit the social gains from invention by reducing incentives to disseminate its fruits. However, an excessively weak system could reduce innovation by failing to provide an adequate return on investment. Thus, a policy balance needs to be found that is appropriate to market conditions and conducive to growth.

Different forms of IPRs operate in distinct fashions and it is misleading to group them together. Therefore, it is helpful to mention briefly what the various mechanisms are; first, *patents* provide the right to prevent for 20 years the unauthorized making, selling, importing, or using of a product or technology that is recognized in the patent claim and that must demonstrate novelty and industrial utility. Related devices are *utility models*, or *petty patents*, which provide exclusive rights for a shorter period for incremental inventions, and *industrial designs*. In most countries patent applications are made public after a prescribed time period. Thus, patents establish a protected market advantage in return for revealing technical knowledge. Several aspects of patent scope affect the effective strength of protection. A similar type of industrial property is *plant breeders' rights*, which have fixed terms, novelty requirements, and disclosure rules. They are intended to encourage development and use of new seed varieties for agriculture.

Trademarks protect rights to market goods and services under identified names and symbols. Trademarks and brand names must be sufficiently unique to avoid confusing consumers, thereby playing the important role of reducing consumer search costs. These rights encourage firms to invest in name recognition and product quality. They also induce licensees to protect the value of assets by selling goods of guaranteed quality levels. If trademarks were not protected, rival firms could pass off their lower-quality goods as legitimate versions of those produced by recognized companies. This situation would diminish incentives for maintaining quality and would raise consumer search costs. Economists generally believe that the danger of market dominance through abuse of trademarks is slight in competitive economies but such marks could be accompanied by significant market power in countries with other barriers to entry.

Firms develop some technologies that might not be patentable, might not be worth the cost of applying for a patent, or might be more valuable if kept undisclosed. They prefer to keep knowledge of such processes proprietary as *trade secrets*, or *undisclosed information*. Trade secrets are protected by legal rules against learning by rivals through dishonest means. Such protection lapses if the technologies are discovered by fair means, such as independent invention or reverse engineering. Protecting trade secrets is beneficial to the extent it encourages the development and commercial use of sub-patentable inventions. Rules protecting trade secrets thus promote adaptive innovation and encourage learning through legal means.

Literary and artistic creations and computer software are protected by *copyrights*, which provide exclusive rights for some period to copy and sell particular expressions of ideas after they are fixed in some medium. Related IPRs include *neighboring rights* of performers and broadcasters, *moral rights* of original artists, and copyrights for derivative products. Like patents, copyrights are limited in scope for various purposes of public policy. The most significant limitation is the fair-use doctrine, under which it is lawful to make limited numbers of copies for research and educational purposes.

Several technologies do not fit comfortably into these traditional categories of protection. Because computer programs may contain elements of industrial utility in addition to their expressive elements, some countries make programs eligible for patents. The designs of integrated circuits typically are awarded exclusive rights for shorter time periods than patents, recognizing that semiconductor designs often

embody elements of expression and that technology changes quickly in that industry. Electronic transmissions of internet materials, broadcasts, and databases may not be adequately protected by standard copyrights and two recent treaties reached in the World Intellectual Property Organization call for stronger protection in certain dimensions (WTO, 1998).

Particularly controversial, especially in developing nations, are patents for biotechnological inventions and plant breeders' rights. It could be argued that patents generate strong and unwarranted protection in the biotechnology industry, because such inventions may not embody a truly inventive step. However, representatives of biotechnology firms claim that patents are required to encourage investment in these risky technologies. There are significant concerns that providing exclusive rights in seed varieties without significant limitations for farmers' use and competitive research could raise costs in agriculture and reduce biodiversity over time.

A final element of an intellectual property system is its enforcement. Such enforcement entails two opposing tasks: punishing infringement by free riders and disciplining enterprises that try to extend their rights beyond intended levels by acting in an anti-competitive manner. These objectives require the development of extensive legal and scientific expertise.

6.3 Endogenous IPRs

A first analytical point to recognize is that national regimes of intellectual-property protection strongly depend on the level of economic development. Thus, the causation between IPRs and development operates in both directions. Indeed, that governments strengthen their IPRs systems as their economies become wealthier and attain a deeper basis of technological sophistication is well established. The claim that strong IPRs promote technical change and development is more debatable.

The determinants of intellectual property protection have been the subject of empirical investigation. For example, consider the index of patent rights developed by Ginarte and Park. They studied the patent laws of a comprehensive set of countries every fifth year from 1960 to 1990, considering five components of the laws: duration of protection, extent of coverage, membership in international patent agreements, provisions for loss of protection, and enforcement measures.

Each of these components was broken down into characteristics determining its effective strength. For example, patent coverage incorporated the eligibility for patents of pharmaceutical and chemical products and the availability of utility models. Enforcement measures included the availability of preliminary injunctions, contributory infringement actions, and reversal of the burden of proof in process patent cases. These classifications were based solely on the laws as written; the authors could not assess how stringently the laws were actually enforced. Each sub-component was assigned a value of one if present and zero if absent, with the component score being the sum of these values as a percentage of the maximum value. Thus, the minimum possible national score was 0.0 and the maximum was 5.0.

To illustrate the index, across all countries in 1985 it averaged 2.44, indicating that roughly half the various sub-components in patent rights existed in the average nation. The developed economies had indexes that were both considerably higher and less variable than those of the middle-income and low-income developing economies. The increase in average protection from poor countries to middle-income countries was considerably less than that from middle-income countries to rich countries. Over time, there was a marked increase in the average index across nations. However, there was not much evidence of convergence between developing and developed countries until the 1990s, as shown in a follow-up study by Park and Ginarte.

Ginarte and Park undertook an econometric study of the empirical determinants of their index. They found that the strength of patent rights across countries and over time depended positively on real GDP per capita, the share of R&D in GDP, openness to international trade, and a measure of the freedom of markets from arbitrary and non-transparent government regulation. Human capital, measured by the secondary school enrollment ratio in an earlier period, was a positive and marginally significant contributor to patent rights. Their results therefore suggest that the development of patent rights responds to rising demands for protection, because countries with higher R&D intensities and human capital inputs have higher indexes. The positive effect of trade openness is intriguing though subject to various interpretations. It could be that people are willing to provide stronger protection in open economies because IPRs help preserve access to greater consumer choice. It could also be that in open economies international trade

interacts positively with innovative effort, raising the demand for intellectual property protection.

An extensive regression analysis of the determinants of the patent index in 1985 and 1990 for 72 countries which provide the results which were largely consistent but two additional features were discovered. First, market size (aggregate GDP) had no significant impact on patent rights. This finding is potentially important for understanding policy evolution. It suggests that an economy's absolute size itself is not a strong determinant of IPRs reform, in contrast with per-capita income and economic development. Because U.S. trade authorities are concerned with the strength of IPRs protection in large but poor economies, such as India and China, they have mounted considerable pressure for change. This finding suggests that, despite such pressure, effective patent rights may remain limited until incomes grow beyond current levels.

Second, controlling for other influences, there is an inverted-U relationship between patent strength and real per-capita income. In words, the apparent strength of patent rights first falls as incomes rise above their lowest levels. After reaching a minimum at some intermediate income level, patent laws are strengthened as development proceeds. Indeed, the strength of patents seems to accelerate at high income levels. The computations suggested that the per-capita real income at which patent protection becomes weakest is approximately \$2,000 in 1985 international dollars. Moreover, the patent index consistent with the regression is the same for economies with per-capita GDP of \$500 and \$7750. It follows that there is a significant range of incomes before protection becomes stronger than its levels in the poorest countries.

These findings may be explained by the nature of technological development. Least-developed countries devote virtually no resources to innovation and have little intellectual property to protect. As incomes and technical capabilities grow to intermediate levels, some adaptive innovation emerges but competition flows primarily from imitation. Thus, the majority of economic and political interests at this stage prefer weak protection. As economies mature to higher levels of technological capacity and demands shift toward higher-quality products, domestic firms come to favour protective IPRs. Finally, the strength of IPRs shifts up sharply at the highest income levels as these latter processes are cemented.

Not only do legislated IPRs become stronger as economies develop, but enforcement and compliance also rise with income levels. Weak enforcement in developing nations reflects both an unwillingness to pay the high costs of administering an effective IPRs system and an inability to manage the complex legal and technical issues such a system entails.

6.4 Positive Impacts of IPRs on Development

Consider now the opposite direction of causation. Economists recognize several channels through which IPRs could stimulate economic development and growth. These processes are interdependent and it is appropriate to adopt a comprehensive view of the incentives associated with intellectual property protection.

Intellectual property rights could play a significant role in encouraging innovation, product development, and technical change. Developing countries tend to have IPRs systems that favour information diffusion through low-cost imitation of foreign products and technologies. This policy stance suggests that prospects for domestic invention and innovation are insufficiently developed to warrant protection. However, inadequate IPRs could stifle technical change even at low levels of economic development. This is because much invention and product innovation are aimed at local markets and could benefit from domestic protection of patents, utility models, and trade secrets. In the vast majority of cases, invention involves minor adaptations of existing technologies and products. The cumulative impacts of these small inventions can be critical for growth in knowledge and productive activity. To become competitive, enterprises in developing countries typically must adopt new management and organizational systems and techniques for quality control, which can markedly raise productivity. Such investments are costly but tend to have high social returns because they are crucial for raising productivity toward global norms. They are more likely to be undertaken in an environment where risks of unfair competition and trademark infringement are small. Moreover, IPRs could help reward creativity and risk-taking among new enterprises and entrepreneurs. Countries that retain weak standards could remain dependent on dynamically inefficient firms that rely on counterfeiting and imitation.

An example of this process is that protection for utility models has been shown to improve productivity in countries with lagging technologies. In Brazil, utility

models helped domestic producers gain a significant share of the farm-machinery market by encouraging adaptation of foreign technologies to local conditions. Utility models in the Philippines encouraged successful adaptive invention of rice threshers.

Maskus and McDaniel considered how the Japanese patent system (JPS) affected postwar Japanese technical progress, as measured by increases in total factor productivity (TFP). The JPS in place over the estimation period 1960-1993 evidently was designed to encourage incremental and adaptive innovation and diffusion of technical knowledge into the economy. Mechanisms for promoting these processes included early disclosure of, and opposition proceedings to, patent applications, an extensive system of utility models, and narrow claim requirements in patent applications. The authors found that this system encouraged large numbers of utility model applications for incremental inventions, which were based in part on laid-open prior applications for invention patents. In turn, utility models had a strongly positive impact on real TFP growth over the period, while patent applications had a weaker but still positive effect. They concluded that utility models were an important source of technical change and information diffusion in Japan, while patent applications provided both a direct and an indirect stimulus to productivity. It is interesting to note that as Japan has become a global leader in technology creation, its patent system has shifted away from encouraging diffusion and more toward protecting fundamental technologies.

Recent studies suggest that innovation through product development and entry of new firms is motivated in part by trademark protection, even in poor nations. A survey of trademark use in Lebanon provided evidence on this point. Lebanon has an extensive set of intellectual-property laws but they are weakly enforced. Firms in the apparel industry claimed to have a strong interest in designing apparel of high quality and style aimed at Middle Eastern markets. Such efforts have been frustrated by trademark infringement in Lebanon and in neighboring countries. This problem was yet larger in the food products sector, where legitimate firms suffered from rivals passing off goods under their trademarks. The problem has seriously hampered attempts to build markets for Lebanese foods in the Middle East and elsewhere. Related difficulties plagued innovative producers in the cosmetics, pharmaceuticals, and metal products sectors. Thus, local product

development and establishment of new firms have been stifled by trademark infringement targeted largely at domestic enterprises.

Similar problems exist in China, as found in a second survey. While the information was anecdotal, it suggested that trademark infringement negatively affected innovative Chinese enterprises. Many examples were cited of difficulties facing Chinese producers of consumer goods, such as soft drinks, processed foods, and clothing. The establishment of brand recognition in China requires costly investments in marketing and distribution channels. Enterprises that achieved this status quickly found their trademarks applied to counterfeit products. Such products were of lower quality and damaged the reputation of the legitimate enterprise. Furthermore, this problem was difficult to overcome and, in some cases, forced enterprises to close down or abandon their trademarks. According to survey respondents, this situation had a deterrent effect on enterprise development and effectively prevented interregional marketing. In turn, enterprises were less able to achieve economies of scale. Chinese trademark infringement was concentrated on products with low capital requirements and high labor intensity. These are sectors in which China has strong comparative advantages. On this evidence, the authors concluded that trademark violations may be particularly damaging to enterprise development in poor nations.

Similar comments apply to copyrights. Copyright industries, such as publishing, entertainment, and software, are likely to be dominated by foreign enterprises (which can absorb temporary losses and afford the costs of deterring infringement) and pirate firms in countries with weak protection and enforcement. Thus, lower-quality copies would be widely available but the economy's domestic cultural and technological development would be hampered. This situation was clear in the Lebanese survey. Lebanon has a small but vibrant film and television industry that could successfully export to neighboring economies if those countries engineered stronger copyright protection. In China, the domestic software industry has grown rapidly in the area of particular business applications, which did not suffer extensive unauthorized copying, but has faced obstacles in developing larger and more fundamental programs. Thus, domestic commercial interests in stronger copyrights have emerged and are now playing a role in promoting enforcement.

Intellectual property rights also could stimulate acquisition and dissemination of new information. Patent claims are published, allowing rival firms to use the

information in them to develop further inventions. This learning process takes place in 10 to 12 months in the United States. Knowledge formation is cumulative and as new inventions build on past practices the process of technical change could accelerate. Patents, trademarks, and trade secrets also afford firms greater certainty that they face limited threats of uncompensated appropriation. This certainty could induce them to trade and license their technologies and products more readily, enhancing their diffusion into the economy.

In strengthening their IPRs regimes, either unilaterally or through adherence to TRIPS, developing countries hope to attract greater inflows of technology. There are three interdependent channels through which technology is transferred across borders. These channels are international trade in goods, foreign direct investment (FDI) within multinational enterprises, and contractual licensing of technologies and trademarks to unaffiliated firms, subsidiaries, and joint ventures. Economic theory finds that technology transfers through each channel depend in part on local protection of IPRs, albeit in complex and subtle ways.

It is widely recognized by economists that imports of goods and services could transfer and diffuse technology. Imports of capital goods and technical inputs could directly reduce production costs and raise productivity. The extent of this benefit would depend on the technological content of imports, suggesting that close trade linkages with innovative developed economies could engender considerable productivity gains through trade flows.

6.5 Negative Impacts of IPRs on Development

While strengthening IPRs bears potential for enhancing growth and development in the proper circumstances, it might also raise difficult economic and social costs. Indeed, developing economies could experience net welfare losses in the short run because many of the costs of protection could emerge earlier than the dynamic benefits discussed above. This situation explains why it is often difficult to organize interests in favor of reform in developing countries.

In most developing economies there are significant amounts of labour employed in copying unauthorized goods. As these nations upgrade their laws and enforcement activities, these workers must find alternative employment. This displacement problem should pose the initial challenge for policymakers in introducing stronger IPRs.

A second major concern is the potential for IPRs to support monopoly pricing. The provision of product patents in pharmaceuticals, agricultural chemicals, and biotechnology, along with plant breeders' rights, should confer greater market power on rights holders. Such firms might then reduce sales to establish monopolistic prices in key medical therapies and industrial and agricultural inputs. There is evidence that patents generate considerably higher prices for protected drugs than for copied and generic drugs. Watal computed that static price impacts of patent coverage in India could raise average patentable drug prices by perhaps 50% from a 1994 base.

However, the extent to which such price increases would emerge depends on several variables, such as the competitiveness of the local pharmaceutical market, the share of drug production that is copied from patentable drugs, and the elasticity of demand for medicines. Evidence from India suggests that pre-patent market structures are relatively competitive because there are significant imitative capacities. Moreover, there could well be a significant degree of market power engendered in the pharmaceutical industries in developing economies, after the introduction of patents, through product differentiation and marketing. In this context, it seems likely that the introduction of patents could place pronounced upward pressure on patented drug prices. In one example, uncontrolled prices of protected drugs at small pharmacies in Beijing and Shanghai may have risen by a factor of three or four on average since the introduction of exclusive marketing rights in 1991 and patents in 1993.

There is little empirical information available on the economic impacts of plant breeders' rights. One recent study was performed in Argentina, Chile, and Uruguay, which have established such systems (UNCTAD). The study looked only at qualitative indicators of the effects on private investments in plant breeding, plant breeding policies of public research institutes, international transfer of germplasm, and seed diffusion among farmers. The systems of rights adopted have had mixed effects on these Latin American economies. First, they have markedly improved the ability of private breeders to control local seed markets and prevent unauthorized trade in protected varieties. The controlled share of seed supply was above 55% in wheat and around 40% in soybeans, figures that compared favorably with those in the United States. As a result, seed prices have risen, though the extent of these increases was unreported. Second, these rights have increased

access to privately developed foreign seed varieties, because their developers became more willing to market their products there. Third, the systems retained farmers' privileges, or the right of farmers to keep sufficient seeds from the harvest for replanting. In consequence, farmers have not been much disadvantaged. However, unauthorized seed dealers have seen their costs rise and some have been pushed out of the market. Over time this rising concentration of the market in the hands of private seed dealers could result in further price increases.

There are no systematic studies of how computer software prices vary across countries with differing levels of copyright protection. It is often claimed that program prices would be much higher in light of comparisons between retail prices of legitimate and copied programs.

However, it may be that software firms prefer to sell in countries like Hong Kong and China at low volumes with substantial markups, reflecting inelastic demand from corporate and government users. The markups would accrue partially to local distributors, who may be protected also by restrictive distributorship laws. Thus, in a dynamic sense it is likely that as markets develop under copyright protection, software firms would supply more legitimate copies of programs at considerably lower prices. Indeed, prices of copyrighted software have fallen sharply in Taiwan since the aggressive crackdown on counterfeiting in the mid-1990s, in part because of additional competition from local developers.

In summary, concerns about monopoly prices supported by IPRs could be valid. However, if IPRs were introduced into competitive markets, such impacts should be limited. Indeed, it makes little sense to protect market positions both with strong IPRs and barriers to competitive entry.

6.6 Evidence on the Overall Impact of IPRs on Growth

The analysis reviewed here claims that strengthening IPRs systems could raise or lower economic growth, though the relationships would be complex and dependent on circumstances. Two recent studies have considered this question empirically. First, Gould and Gruben related economic growth rates across many countries to a simple index of patent strength and other variables. They found no strong direct effects of patents on growth, but there was a significantly positive impact when patents were interacted with a measure of openness to trade. That is, the impact of stronger patents in open economies was to raise growth rates by 0.66% on average,

suggesting that market liberalization in combination with stronger IPRs increases growth.

Their argument was that open economies tend to experience greater competition, higher amounts of competitive FDI, and enhanced needs to acquire advanced technologies for purposes of raising product quality. Moreover, firms in such countries would be more likely to undertake the costs of effective technology transfer and adaptation to local circumstances. However, such innovation would be more prevalent in economies with adequate IPRs. This finding implies that as countries strengthen their IPRs, pursuing market liberalization would procure a more affirmative path to economic growth.

Park and Ginarte studied how IPRs affect growth and investment. They found no direct correlation between patent strength and growth, but there was a strong and positive impact of patents on physical investment and R&D spending, which in turn raised growth performance. This result was consistent with that in Bornstein, De Gregorio, and Lee, who found that FDI had a significantly positive impact on growth, but only in countries that had attained a threshold level of secondary education within their populations. In this sense, IPRs, openness, FDI, and human capital accumulation work jointly in raising productivity and growth.

6.7 Benefiting from Intellectual Property Rights

The adoption of stronger IPRs in developing countries is often defended by claims that this reform will attract significant new inward flows of technology, a blossoming of local innovation and cultural industries, and a faster closing of the technology gap between themselves and developed countries. It must be recognized, however, that improved IPRs by themselves are highly unlikely to produce such benefits. Consider the differences between countries in sub-Saharan Africa, with long-standing and relatively strong laws on the books (albeit a limited ability to enforce them), and countries in East Asia, many of which have reformed their regimes only quite recently. The prior group attracts little FDI and receives few patents at home or abroad. The latter group attracts the bulk of FDI in the developing world and is experiencing rising use of intellectual property protection. Expectations that stronger IPRs alone will bring technical change and growth are likely to be frustrated.

The evidence presented above suggested that IPRs could generate more international economic activity and greater indigenous innovation, but such effects would be conditional on circumstances. Circumstances vary widely across countries and the positive impacts of IPRs should be stronger in countries with appropriate complementary endowments and policies. Countries face the challenge of ensuring that their new policy regimes become pro-active mechanisms for promoting beneficial technical change, innovation, and consumer gains.

6.8 Implementing Pro-competitive IPRs Standards

Developing nations are overwhelmingly importers of technology, suggesting that they should establish standards that encourage learning and follow-on innovation within their IPRs system. For example, patent examiners could follow the highest reasonable standards for non-obviousness in invention patents, require early disclosure of technological information, limit protection to narrow patent claims, and establish a narrow doctrine of equivalents. The last approach, exemplified by an effective system of utility models, could be significant for encouraging the development of local capacity to invent legitimately around patents. An effective system of opposition to patent grants is important for interested parties to make available information about prior art.

The construction of particular standards requires careful thought. For example, TRIPS requires patents for biotechnological micro-organisms and special protection for plant varieties. However, there is room to vary from U.S. standards in this regard. It is possible to erect strict standards of novelty, non-obviousness, and disclosure in biotechnology in order to promote dissemination and limit broad protection. However, the stricter are these standards the more they discourage fundamental invention by the emerging local biotechnology industries. In protecting plant varieties it is advisable to provide a breeders' exemption, a farmers' privilege, and mechanisms for conserving biodiversity. Again, however, such limitations may deter exploitation of plant rights by foreign enterprises and discourage invention in agricultural public research institutes. Regarding the latter, it is important to ensure that mechanisms for moving research results from the laboratory to farmers' use are transparent and efficient.

In copyrights, countries could allow wide exceptions to protection under the fair-use doctrine for research and educational purposes. Particularly significant would

be a liberal stance on reverse engineering of computer programs, with the intent of encouraging indigenous software development. Thus, while wholesale copying must be prohibited, developers could use functional components of protected programs in independently developed programs. The extension of patents to computer programs is of dubious value in development terms and is not required by international norms.

6.9 Enhance Capacities to Develop and Use of IPRs

The dynamic benefits countries accrue from IPRs depend on their abilities to develop and absorb technologies and new products. In this context, three issues are critical for development purposes. First, it is clear that the ability to adapt new technologies to local industrial uses is improved by strong levels of educational attainment and sizeable endowments of human capital. Thus, there are important payoffs to providing access to technical training and secondary or university education.

Second, productivity in absorbing foreign technologies depends critically on the R&D performance of local enterprises. This observation points to the importance of developing an effective technology policy for promoting technical change in domestic enterprises. Such programs could include technology demonstration projects, information sharing through conferences, the encouragement of research joint ventures, and improved linkages between public research institutes and enterprises. Indeed, an important problem in many countries is the inability of research institutes to bring their inventions to market in a useful way, in part because property rights to those inventions are unclear. Stronger IPRs alone would help in this context, but so also would development contracts between institutes and enterprises with defined ownership shares and increased flexibility for researchers to form new business concerns.

Third, it is also important for countries to encourage the development of financial markets that are capable of managing the significant risks involved in technology development. Nations could learn from the experience of American venture-capital firms.

6.9.1 Promote Competitive Markets

Ultimately, perhaps the most important determinant of the success of an IPRs regime is the competitive nature of the markets within which it operates. Put briefly, the dynamic gains from IPRs are larger, and the costs of abuse are smaller, in economies with competitive market structures. Thus, it is important for countries to liberalize their markets to the deepest extent possible as they strengthen their protective systems. This observation calls for further opening to international trade and investment, including relaxing restrictions against service providers. Domestic deregulation initiatives to make enterprises more competitive are also important here. Such reform needs to be accompanied by mechanisms to ensure that potential entry of new firms is not blocked by public regulations.

Evidence mentioned above showed that economies that are more open to trade and FDI should experience a growth premium from strengthening their IPRs in comparison with closed economies. Stronger property rights create market power, which is more easily abused in economies that are closed to foreign competition. An important impact of trade liberalization is to inject foreign goods and techniques, which compete with previously protected oligopolies. These pro-competitive gains have been shown to be significant in a variety of contexts and at different levels of development. In that regard, to strengthen IPRs, on the one hand, but to maintain closed markets, on the other hand, is to work at cross-purposes. For example, a patent takes on greater market power in the presence of an import quota on similar goods, which limits consumer substitution choices. Competitive markets help limit the effective scope of intellectual property rights to their intended function, which is to foster investments in competition but not to prevent fair entry. There are additional reasons why IPRs and open markets are complementary policies. First, a liberal stance on inward trade and FDI improves a country's access to available international technologies, intermediate inputs, and producer services, all items that can raise domestic productivity. However, the evidence above demonstrated that such flows are discouraged by weak patent rights and trade secrets. Second, a critical purpose of IPRs is to encourage investments in improved product quality, which is often a pre-condition for breaking into export markets. Similarly, IPRs can support investments in marketing that raise product demand and permit economies of scale in production. These processes pertain as much to domestic entrepreneurs as they do to incoming foreign competitors.

6.9.2 Develop Competition Policies

Because intellectual property rights create market power, their use is potentially subject to anti-competitive abuses. Such concerns are often overstated. Intellectual property rights define the boundaries within which an inventor or creator has exclusive use rights. Such rights rarely create strong monopoly positions unless they are combined with restrictions on competitive entry by other firms. Indeed, IPRs are critical for promoting R&D that generates dynamic competition.

Nonetheless, the scope of IPRs is limited in order to promote access, dissemination, and competition. Attempts by rights-holder to extend their use of IPRs beyond permitted limits are abuses of the competitive system. It is useful to review the forms in which such abuse may occur. For example, monopoly pricing represents one potential abuse, although in competitive markets there are usually market substitutes that discipline the ability of IPRs to support monopoly prices. Therefore, pricing decisions are rarely regulated by public authorities in industrial countries except for purposes of limiting the costs of maintaining public health and nutrition.

Perceived abuses of IPRs typically relate to strategic business decisions, including selling practices and licensing restrictions. There is a large literature on the competitive effects of market power created by patents, trademarks, and protected know-how. There are few concrete guidelines in the area because of the complex nature of markets for information and technology. Vertical licensing agreements, for example, could serve the purpose of ensuring downstream product quality, which improves competition. However, tie-in sales of unrelated products to technology purchasers may represent an attempt to extend the scope of a property right, which damages competition.

Potential competitive problems raised by the exploitation of IPRs include the following: First, horizontal cartels of competing firms may occur through licensing agreements that fix prices, limit output, or divide markets. Actual and potential competitors could be both licensees and licensors, either in the market for the product or technology itself or in extended markets. For example, patent-pooling and cross-licensing agreements between competing licensors may reduce competition in downstream product markets that use the licensed technologies as

key inputs, particularly where the agreements set prices or restrict territories, customers, and fields of use.

In industrial countries competition authorities have found it difficult to set general rules covering such licensing contracts. Instead, investigations are undertaken to determine whether an agreement presents the potential for cartelization of a significant share of a particular market. Concerns also arise over agreements requiring resale price maintenance of distributors' prices, which could result in vertical price-fixing unrelated to the need to monitor and enforce quality assurance. Clearly such risks are greater the more regulated is entry into distribution contracts, a common problem in developing countries.

Second, licensing agreements for intellectual property could anti-competitively exclude rival firms from competing in particular markets by raising barriers to entry. This could be the case with tie-in sales, in which a licensor gains a dominant position for the tied good. Potential competitors would be forced to enter in both the markets for the protected technology and the tied good, raising costs. Similar problems exist if licensees are required only to use the licensor's technology, which may also require use of future technologies. Such restrictions could result in a dominant position for licensors in secondary markets and limit competitive entry by rival firms. A related difficulty arises when licensors block the development of competing new technologies through exclusive grant-back provisions and exclusivity arrangements in future technology purchases. Competition policy must try to assess the potential anticompetitive impacts of licensing arrangements before deciding whether and how to regulate them. Note that such impacts depend crucially on the structure of the markets in which licensing contracts operate, the share of markets they cover, and the difficulty of entry for rival enterprises.

A third general class of problems relates to attempts to acquire excessive market power by purchasing exclusive rights to competing technologies and products, with the intention of preventing their commercial use. Such efforts effectively are horizontal mergers, which must be analyzed in terms of their impact on market concentration. A final problem is non-price predation, in which IPRs may be used to bring bad-faith litigation and opposition proceedings in order to exclude and harass competitors. This may be particularly damaging in cases where potential rivals are small and new and therefore lack the resources needed to defend themselves in court. In turn, this problem could stifle the development and

introduction of competing technologies and products. The task for competition authorities is to distinguish predatory behavior from legitimate enforcement of IRPS. For example, firms may refuse to license technologies in particular markets or to particular firms, which could be interpreted either as legitimate business practice or unfair competition.

The message is that there are complex relationships between IPRs and their potential abuse. Property rights support market power, the exercise of which does not necessarily constitute an abuse. Competition policy makers need to distinguish various forms of behavior in terms of potential impacts on competition and consumer welfare. In this view, it is likely advisable for countries developing competition rules to follow some form of the American "rule of reason" approach, rather than attempting to codify rules covering specific actions, which is the EU approach. More specifically, a rule of *per se* illegality might apply to attempts to monopolize horizontal production and distribution channels, while the rule-of-reason standard might apply to vertical arrangements and tied sales. Patent licensing and pooling arrangements, while not necessarily anticompetitive, might warrant some scrutiny. Note further that the TRIPS agreement permits use of non-exclusive compulsory licenses under prescribed circumstances to overcome abusive practices, so long as adequate compensation is paid.

Thus, there is scope for nations to promote competition in the operation of patent and trademark licensing. In this context, however, note that many foreign enterprises remain frustrated by the intrusive examination procedures employed by licensing authorities in approving technology contracts. Thus, some balance must be struck between encouraging competition and discouraging entry.

Countries must also consider their position on the exhaustion of IPRs. Countries generally observe a "first-sale doctrine" under which domestic sale of a protected good eliminates rights to prevent its further sale, which helps promote competition. The issue is more controversial internationally, where recognizing exhaustion implies allowing parallel imports or exports of protected goods. There are again complicated tradeoffs here. Generally an exhaustion principle promotes market integration and disciplines monopoly pricing, suggesting that it is pro-competitive. However, poor countries may benefit from market segmentation if it encourages foreign firms to sell their goods at lower prices than in rich countries. Until further

information is developed on this score, governments might be advised to pursue a policy of international exhaustion.

Finally, public-health authorities might follow the lead of many developed economies in establishing a regime of price regulation in patented pharmaceuticals for purposes of limiting prices paid by patients and hospitals and restraining the costs of public provision of health care. Evidence shows that such regulation significantly restrains prices but also discourages pharmaceutical innovation in countries that follow them, so again a balance between objectives needs to be struck.

6.10 Summary

Economic theory demonstrates that IPRs could play either a positive or negative role in fostering growth and development. The limited evidence available suggests that the relationship is positive but dependent on other factors that help promote benefits from intellectual property protection. In brief, IPRs could be effective and market-based mechanisms for overcoming problems that exist in markets for information creation and dissemination. However, their existence could pose problems in terms of their potential for costs and anticompetitive abuse.

Accordingly, modern IPRs systems are not sufficient by themselves to encourage effective technology transition. Instead, they must form part of a coherent and broad set of complementary policies that maximize the potential for IPRs to raise dynamic competition. Such policies include strengthening human capital and skill acquisition, promoting flexibility in enterprise organization, ensuring a strong degree of competition on domestic markets, and developing a transparent, non-discriminatory, and effective competition regime.

Thus an honest overall appraisal of harmonization—defined as universal adoption of U.S.-like IPR policies—is as a policy initiative that hurts developing countries for the benefit of rich countries, with the possibility but no certainty that the global benefits exceed the global costs. If this is true, then the only defensible basis on which to pursue harmonization is for the rich countries to compensate the industrializing countries for making the change. If the compensation comes in an efficient form, such as the elimination of our own trade barriers, then it is likely that the overall initiative would be globally welfare-improving.

The most likely globally efficient IPR policy is not harmonization, but rather selective and gradual IPR reform, in which each country is allowed to devise policies that are appropriate for its particular technological situation and stage of development. For countries in the early stages of catch-up to the world technological frontier, this will mean policies that facilitate technology transfer and even a certain amount of imitation. At some point, however, countries need to recognize that movement toward fuller IPR protection will facilitate foreign FDI and licensing. Eventually, as a domestic innovation sector emerges, countries will find it in their interests to provide greater protection in order to protect their own inventions. There is nothing wrong with the rich countries encouraging this process of reform, but bullying, or suggestions that early adoption of our system is in their own self-interest, are likely to be counter-productive.

6.11 Self-Assessment Test

1. Describe the purpose and mechanism of Intellectual Property Rights.
2. Explain the positive and negative impacts of Intellectual Property Rights on development?
3. Whether stronger protection of Intellectual Property Rights will enhance the development of any country? Describe.
4. Which type of protection will you suggest for Intellectual Property Rights so that a country may be benefiting from Intellectual Property Rights? Give reasons.
5. What steps must be taken by a country to enhance capacities to develop and use of Intellectual Property Rights?

6.12 Further Readings

1. Branstetter, Lee, Raymond Fisman, C. Fritz Foley, and Kamal Saggi, "Intellectual Property Rights, Imitation, and Foreign Direct Investment: Theory and Evidence," NBER Working Paper 13033, April 2007.
2. Deardorff, A. "Welfare Effects of Global Patent Protection." *Economica*. 59, 35-51. 1992.
3. Fink, Carsten and Maskus, Keith E. *Intellectual Property and Development: lessons from recent economic research*. Washington, D.C.: World Bank and Oxford University Press. 2005.

Unit 7

IPR the Need of Protection at International and National Level

Objectives:

After going through this unit, you should be able to understand the need of protection of intellectual property rights at International and National level and how these rights are important in raising business.

Structure:

7.1 Introduction

7.2 Need to Recognize Intellectual Assets as Property: Challenges and Problems

7.2.1 Reasons to Recognize Creative Activity as Property

7.2.2 Challenges in Protection of IPRs in Modern Era

7.2.3 International Differences in Protection of IPRs

7.3 The New Global System for Protection of IPRs

7.3.1 The TRIPS Agreement

7.4 TRIPS as Protector and Problems with TRIPS

7.4.1 TRIPS as an International Protecting Device

7.4.2 Challenges and Problems with TRIPS

7.5 Need of Protection of IPRs at National Level

7.6 Summary

7.7 Self Assessment Test

7.8 Further Readings

7.1 Introduction

Intellectual property (IP) is an asset, developed by inventive or creative work, to which rights to exclude its unauthorized use have been granted by law. The international exploitation of IP is central for trade, foreign direct investment (FDI) and technology licensing across borders. That such flows have increased in both absolute and relative terms is well established. Intellectual property rights (IPRs) are the formal mechanisms by which property is established in intellectual assets.

These rights are territorial by legal tradition, with each country or region establishing the terms under which it will define and protect such property. Indeed, IPRs are a critical component of national business regulatory regimes.

The incongruence between the growing need for international exploitation of intellectual assets and the territorial (and often underdeveloped) nature of rights to do so resulted in enormous pressures for systemic change in recent years. These pressures underlay extensive bilateral, regional, and multilateral negotiations on IPRs, which generated a significant expansion of required minimum standards, especially in developing economies and countries in transition. The overarching achievement is the conclusion of the Agreement on Trade-Related Intellectual Property Rights (TRIPS), a foundation of the new World Trade Organization (WTO).

The movement toward stronger and more comprehensive standards raises pessimistic concerns about the competitive behavior of newly protected firms, including their pricing and licensing practices. It also promotes optimistic hopes that additional innovative activity will emerge on an international scale. Relatively absent in the literature are sober assessments of the implications for international commercial activity and competition, with attendant analysis of beneficial regulation.

7.2 Need to Recognize Intellectual Assets as Property: Challenges and Problems

Intellectual property rights define the extent to which their owners may exclude others from activities that infringe or damage the property. Thus, IPRs set out and protect the boundaries of legal means of competition among firms seeking to exploit the value of creative assets. Efforts to extend the rights beyond these boundaries are denied, in principle. In this context, it is more fruitful to conceive of IPRs as rules regulating the terms of static and dynamic competition, rather than mechanisms for creating legal monopolies, which is the standard economic conception. While IPRs do create market power, the impact on competition varies as widely across products, technologies, and countries as it does across the scope of protection.

7.2.1 Reasons to Recognize Creative Activity as Property

The need for IPRs arises from the fact that, without them, a piece of potentially valuable information would suffer from overuse, to the extent that access to it is not costly, from the standpoint of its development and improvement. This use would rapidly deplete the economic value of the information, limiting incentives to create it. This congestion problem, arising from free-riding behavior, imposes the dynamic costs of limited cultural creation and product development, and reduced growth, on economies that fail to recognize it adequately. The problem is acute for intellectual assets because the public-good nature of information makes free-riding through copying particularly simple in many instances. An additional complexity related to the nature of information is that its social value may differ from its private value due to an inability to appropriate the full social gains from an invention. Examples include network efficiencies from computer systems or software standards and spillover cost reductions to users of technical inputs.

However, property rights in information also generate costs. Rent-seeking may be a serious problem because the information is being invented anew and bears no defined ownership until its creation is successful. Thus, a strong IPRs system can encourage both costly duplication of investment in R&D through patent races and wasteful efforts to assert ownership rights and to extend them beyond the intention of the original grant. Further, enforcement costs may be high because it is costly to exclude potential free riders from exploiting the information. Moreover, excluding prospective users imposes static deadweight costs because the marginal cost of provision is often small. Finally, the costs of transferring rights to intellectual property may be significant because of contracting difficulties related to uncertainty about the value of information, problems in monitoring licensees, and the like.

Thus, a complicated set of tradeoffs exist in devising rights to intellectual property. In theory, the appropriate balance of incentives would depend on numerous market characteristics in each product or artistic area. These characteristics include prospective demand, potential spillovers, the costs of R&D, impacts on market structure, and competitive aspects of the economy. Many of these factors are uncertain at the time IPRs decisions are made, suggesting that finely tuned policies are unworkable. Rather, IPRs must be based on generally applicable standards rather than on a case-by-case grants system.

Certain principles guide the development of an appropriate system. First, it should allow sufficiently market-based incentives for creation while minimizing the costs of innovative activity. Second, it should provide for timely disclosure of new information and permit reasonable fair use with economic and social goals in mind. Third, the scope of protection should be limited in order to strike a balance between competing needs for development and dissemination. Fourth, there should be coherent interaction with other regulatory and economic systems, including competition policy, trade and FDI regimes, and technology-development programs.

7.2.2 Challenges in Protection of IPRs in Modern Era

Broadly stated, an IPR system consists both in the rights created and their regulation. Under classical intellectual-property doctrine, two forms of property could be created, industrial property and artistic property, with limitations placed on the exploitation of each.

Rights to exploit inventions of demonstrated industrial utility are awarded through patents, utility models or petty patents, and industrial designs. Most important are patents, which provide the right to exclude, for a fixed time, all others from making, selling, or using the product or process described without authorization. Patents are not intended to protect new knowledge, but rather its embodiment in new products or industrial processes. Thus, the breadth of patent coverage extends to uses of the novelty claimed by the inventor and recognized by patent examiners. The patent claim must meet technical criteria for novelty, or non-obviousness, and industrial utility. It must also survive any opposition procedures based on competing claims of prior invention or insufficient novelty. For this purpose, patent applications are laid open for inspection by interested parties. Thus, the core social bargain of patents is to create a protected market position, which may or may not involve considerable market power, in return for disclosure of technical advances. Governments may place limits on the power of patents, including exclusions of particular subjects from patentability and the provision of anti-monopoly remedies to discipline licensing and marketing abuses.

Rights to market goods and services under an exclusive name are established by trademarks and service marks, which uniquely identify a firm or its assignees. Such marks provide incentives for firms to invest in brand-name recognition and product quality, with beneficial impacts on product differentiation and innovation

and on consumer search costs. The grant of a mark is subject to opposition by others who may have registered it, or a similar mark, at an earlier time. Because protection of well-known marks provides some scope for strong licensing advantages, their use is subject to limitations based on preservation of competition. An important related device is a geographic indication, which allows the use of a place name where a product was made to convey certain characteristics of its region.

A final form of industrial property protection is breeders' rights, which allow developers of new plant varieties to control their marketing and use. These rights operate much like patents, in that they are provided for fixed terms and carry novelty requirements. Their intent is to generate incentives for the development of new strains for agricultural and horticultural purposes. They are controversial in developing countries with significant farming sectors but little capacity for innovation in the area.

Often firms develop industrial processes that have value but may not be patentable, may not be worth incurring the expense of patenting, or may have greater strategic advantages if they are not revealed through the patenting procedure. Such processes are termed trade secrets, which are protected not by formal property rights but by legal liability rules against unfair expropriation. There exists no exclusive right to use the information if it is learned by fair means, such as independent creation or reverse engineering. Thus, a trade secret bears no statutory time limit but can run out in the regular course of competition.

Artistic and literary properties are protected largely by copyrights, which provide exclusive rights to copy and disseminate the particular expression of an idea for a fixed term. Since it is the expression that is protected, rather than the idea, copyrights are provided without reference to quality of the work. Related mechanisms include neighboring rights and moral rights. Copyrights also generally extend to control over derivative products. As with other IPRs, copyrights may be subject to limitations for social purposes. Foremost among these is the fair-use doctrine. Scientific progress and education require reasonable access to prior research and literature in order to promote learning and follow-on invention.

Recent advances in technology have strained this classical conception of intellectual property because new forms of creative activity do not easily fit into it. For example, computer software embodies elements of both expression and

industrial utility, leading to questions about whether it should be subject to copyright or patent protection and to what extent recompilation of programs should be allowed in order to develop competing applications. Similar comments apply to aspects of semi-conductor chip designs, which have attracted their own hybrid forms of *sui generis* protection. Electronic transmissions of broadcasts, internet materials, and databases also raise questions regarding whether copyright protection is adequate to encourage them. There is also concern over whether patents generate excessive protection for biotechnological inventions, many of which involve a simple application of recombinant DNA technology rather than a true inventive step but nonetheless require significant expenditures on research. In short, technological change has established a continuum of invention types in the presence of discrete forms of protection, placing stresses on the latter.

Enforcement of IPRs embodies two tasks: preventing their infringement by free-riders and disciplining attempts by the rights-holders to extend them beyond the terms of the grant. Most systems rely on private enforcement, meaning that it is the responsibility of interested parties to oppose a grant in the examination or registration procedures, to inform authorities of infringing activity or abuse of rights, and to initiate legal action. Actions against basic infringement are straightforward, including provisions for seizure of goods at the port, clamping down on unauthorized copying and distributing facilities, and levying fines and criminal penalties. As competing claims become more complicated, however, courts must decide on their legality within the framework of accepted regulations. Such claims may be about infringement or appropriation of an invention by means that are not clearly illegal and require judicial interpretation. Equally they may be allegations that a right-holder has exceeded the scope of protection by engaging in anticompetitive activity in its exploitation. Clearly, there is a strong link between IPRs and competition policy, with regulatory authorities and the courts empowered to manage this linkage.

While the rights granted and the vigor terms of enforcement determine the direct framework for intellectual property regulation, it must equally be recognized that there are significant collateral measures that influence the effective scope and economic value of IPRs. Key among these are trade and investment policies, industrial policies, including research and production subsidies, public-health and environmental regulations, and commercial controls. For example, a patent takes

on greater market power in the presence of an import quota on similar goods, which limits consumer substitution possibilities. Similarly, it is common practice in some nations to mandate that a foreign firm must operate through a single local distributor, which markedly expands opportunities for abusive price-setting in the presence of strong trademark protection. A final example is the prevalence in many countries of strict price controls in pharmaceutical products, which limit the value of patents but also reduce the attractiveness of supplying those markets. In this regard, it is inadequate to analyze the implications of IPR systems without also considering their position in the general regulatory structure.

7.2.3 International Differences in Protection of IPRs

It is evident that countries with widely varying levels of economic development and abilities to engage in technology development and imitation would have disparate interests in IPRs protection. That there are considerable differences in the strength of laws and enforcement is well-documented. For example, Rapp and Rozek developed a discrete index across countries of the strength of patent laws in 1984, with zero indicating an absence of protection and five indicating very strong protection. Markus and Penubarti corrected this index for measurement error and endogeneity, resulting in a continuous index useful for empirical work. There is a strong positive relationship between the index of patent strength and real per-capita income. A simple regression computes:

$$\text{Patent} = -0.51 + 0.49 \cdot \ln Y \quad R^2 = 0.37$$

The income coefficient is significant with more than 99% confidence. In fact, the relationship appears to be non-linear:

$$\text{Patent} = 10.5 - 2.63 \cdot \ln Y + 0.21 \cdot (\ln Y)^2 \quad R^2 = 0.50$$

While there are numerous difficulties with this index, the regressions persuasively argue that national interests in IPRs protection are endogenous to growth in per-capita income, among other variables. The second regression suggests that patent protection tends to decline in strength as economies move beyond the poorest stage into a middle income stage in which they have greater abilities to imitate new technologies. The political economy behind this situation is not hard to explain. Even so, one refers to these middle-income countries as being in the "technology draught," because they tend to focus R&D efforts on adaptation, imitation, and reverse engineering. As economies become more innovative at the highest levels of income, patent protection increases sharply.

Further, there is a strong correlation between the strength of patents and other forms of IPRs, such as trademarks and copyrights, although there are some interesting individual exceptions to this rule, especially in copyrights. Finally, the strength and effectiveness of enforcement efforts also vary with economic development levels. This reflects both an unwillingness to absorb the costly administrative expenses associated with enforcement and an inability to manage many of the complicated technical and judicial issues associated with the use and infringement of IPRs.

The largest differences in intellectual property protection occur along North-South lines. From the standpoint of information developers in the innovative countries of the North, there are several primary shortcomings in the regimes of many developing countries. First is inadequate copyright and trademark protection, allowing extensive copying of entertainment and software products and unauthorized use or misrepresentation of well-known trademarks. Second is the exclusion from patent protection of pharmaceutical products and chemical products and food additives. Third is the absence of patent protection for biotechnological inventions and patents or *sui generis* rights for plant varieties. Fourth is the practice of issuing compulsory licenses with inadequate compensation to firms that are perceived to be exercising their patent or trademark insufficiently to achieve desired consumer benefits or technology transfer. Fifth is the weak or poorly defined system of rules protecting trade secrets. A final significant problem is inadequate procedures for administrative and judicial enforcement of defined rights.

While these substantial differences in North-South IPRs standards have dominated recent efforts to strengthen the global system, significant controversies persist over IPRs in developed countries as well. For example, the United States remains dissatisfied with aspects of the Japanese patent system, claiming that it encourages excessive filing of narrow patent claims and discourages patenting by foreign firms. The United States and the European Union have moved toward patenting software with demonstrated industrial utility, but they differ considerably in their rules concerning acceptable recompilation of programs for purposes of reverse engineering. Negotiations continue over the scope of protection for geographic indications, about which there are strong differences of opinion. Developed countries also differ markedly in their treatment of various aspects of copyrights.

7.3 The New Global System for Protection of IPRs

The weaknesses of the international system became progressively clearer as the forces of globalization expanded and means for low-cost copying proliferated. Indeed, the protection of IPRs is inherently a dynamic process, involving both a secular evolution within each country over time and the need for new standards of protection as technologies and marketing strategies change.

Thus, in the 1990s the world has moved sharply toward an international system of IPRs that, while continuing to recognize the national or regional application of rights, requires stronger minimum standards and a greater emphasis on non-discrimination. The system embodies elements of cooperation and a narrowing of practices, though it remains far from being fully harmonized.

An important component of the shift has been unilateral adoption of stronger laws and enforcement procedures in numerous developing nations. These decisions were taken because of both external pressure and a growing perception, however valid, that strong IPRs are important in attracting investment and technology. Also significant are various regional initiatives in intellectual property, such as the IPRs component of NAFTA. The proliferation of regional standards that may differ from national practices or global minimum standards raises interesting analytical questions that require further examination. For example, to the extent that investment flows are responsive jointly to trade preferences and IPRs, regional agreements bear some unknown potential for investment creation and diversion.

7.3.1 The TRIPS Agreement

The most significant change is the TRIPS Agreement, for extensive analysis, it will be useful to list those provisions that will require significant legal and institutional changes. The standards discussed are minimum requirements in all WTO members without reservations, but nothing in the Agreement precludes countries from adopting stronger procedures. An important general obligation is the introduction of MFN treatment into IPRs.

Regarding patents, WTO members no longer can exclude any area of technology, such as pharmaceutical products, from patent eligibility and the burden of proof in process infringement cases is placed on the accused. Patent protection must extend for at least 20 years from the application filing date. Patent holders cannot be

obliged to work their patents with local production (imports are sufficient). The issuance of compulsory licenses, while still available, is subject to limitations and must bear adequate, "market based" compensation. There is a complicated interim procedure for providing exclusive marketing rights for pharmaceutical products and agricultural chemicals during transition periods to new patent regimes. Countries must protect new plant varieties, either within their patent systems or with a separate system of breeders' rights. Original industrial designs must be protected for a minimum of ten years.

Countries must recognize, in their laws, protection for well-known trademarks and protection is extended to service marks and collective marks. Registration may be cancelled for non-use but only under tightly limited circumstances; in particular, an absence of imports due to local trade restrictions is no longer cause for cancellation. Compulsory licenses of trademarks are prohibited. WTO members must protect geographical indications of origin and prevent producers from misleading the public about the geographic origin of goods. Copyright owners are given rental rights in order to earn royalties for commercial rental of their works. Minor exceptions from MFN are allowed in copyrights, based on existing reciprocity provisions. Computer programs and databases must be protected (at a minimum) as literary devices, meaning that they are given copyright protection for at least 50 years. In most countries this obligation means that literal copying must be ended, while the scope for fair-use recompilation remains open to discussion. Integrated circuits designs must be protected for a minimum of ten years. Rights owners have the right to prevent imports and sales of products that incorporate the unauthorized devices, even if the merchants are unaware of the infringement.

Each WTO member must develop a system for protecting trade secrets from unfair competition, according to specified minimum standards. Commercial data submitted for regulatory approval of chemical products must be protected against unfair use and premature disclosure. Each WTO member must develop a system for protecting trade secrets from unfair competition, according to specified minimum standards. Commercial data submitted for regulatory approval of chemical products must be protected against unfair use and premature disclosure.

Finally, in recognition of the large and expensive institutional and legal changes these provisions require in countries with limited IPRs systems, transition periods are provided. General obligations (national treatment and MFN) were to be in force

immediately upon the adoption of the WTO. Developing countries and countries in transition must meet the detailed obligations within five years that is, by January 1, 2000 and least-developed countries must meet them within eleven years by January 1, 2006. The latter countries may, upon appeal to the TRIPS Council, receive extensions for an unspecified period, suggesting that they have been given an opt-out procedure. Countries are free to accelerate their adherence to TRIPS. Disputes in intellectual property will be subject to the integrated dispute settlement mechanism agreed in the WTO. However, there is a five-year moratorium on the use of dispute settlement against indirect violations of TRIPS, allowing nations to select implementation strategies without interference through this route. In systemic terms, one of the primary benefits of TRIPS in establishing a broad set of multilateral disciplines over IPRs is that it will move future conflicts into an established forum for settling disputes. These conflicts likely will expand due to increasing global economic integration and growing importance of IP-sensitive goods and services in international commerce.

Economic Implications

The TRIPS Agreement ushers in a new global framework for IPRs. It markedly strengthens minimum standards for protection, moving the system closer to harmonization, and tilts the balance of economic rewards toward innovative interests and away from imitation and copying. It also expands the choice sets available for high-technology firms in deciding how best to service international markets – through inter-firm or intra-firm trade, investment, joint ventures, licensing, patent pooling or cross-licensing agreements with competing foreign firms, and pricing to market. Little is known about how this change will influence resource flows and the distribution of benefits and costs across countries and over time. However, it is useful to characterize briefly the evidence to date. Consider first a functional breakdown.

Trade and Investment

This significant change in global IPRs protection could have a strong impact on international trade in goods and services. In theory, however, the direction of impact is ambiguous. For example, limited protection against counterfeit goods raises deterrence costs for firms in supplying markets, suggesting that stronger IPRs would expand trade. However, there is a fundamental tradeoff between the

market power generated by stronger IPRs, which tend to enhance the ability of firms to segment markets and limit trade, and the market-expansion impact of raising the costs of imitative activity.

Maskus and Penubarti study this issue most carefully. In estimating a reduced-form econometric model of bilateral trade flows between OECD countries and developing nations, they incorporate measures of market size and trade protection in addition to an index of patent strength in 1984. The results indicated that, across nearly all 3-digit ISIC manufacturing sectors, a strengthening of a country's patent law would attract a significantly positive, although small, increase in trade. This effect is particularly strong in large developing economies with significant imitative capabilities, indicating that trade would both displace local infringers and undergo a net expansion. The effect was weaker in small developing countries with low incomes, suggesting a greater tendency toward the use of market power. Smith updates this work with more refined data and discovers considerably stronger trade impacts. Thus, there is evidence that IPRs do affect trade flows and that TRIPS could have a positive allocative impact.

Incentives for FDI arising from stronger IPRs are also ambiguous, in theory. To the extent that trade and FDI are substitutes, the preceding results suggest the latter would decline. However, it is likely that trade in goods and FDI are largely complementary in products in which knowledge-based assets give rise to investment, an observation that is consistent with rapidly growing intra-firm trade. By directly raising the economic value of ownership advantages, stronger patents, trademarks, and trade secrets should expand the profitability of FDI, particularly in conjunction with expanded market demand as imitators are discouraged. On the other hand, strengthened IPRs could reduce the contracting costs in arm's-length licensing arising from uncertainty about the true value of an invention and the potential for monitoring and disciplining the activity of licensees. Thus, there could be a substitution effect into licensing as TRIPS is implemented.

It is evident that IPRs should have varying impacts on FDI in different sectors. Investment in lower-technology goods and services depends relatively little on the strength of property rights and relatively much on input costs and market opportunities. Investors with a product or technology that is hard to imitate may pay little attention to IPRs as well. Firms with easily copied products, such as software and pharmaceutical products would be interested in the strength of IPRs,

as would firms considering investments in local R&D facilities. These comments are consistent with survey results presented by Mansfield. Econometric work in this area is scarce. Early studies could not find any relationship between crude measures of IPRs and the international distribution of FDI. However, Lee and Mansfield regressed the volume of U.S. direct investment in various countries over the period 1990-1992 on an index of perceived weaknesses of IPRs in destination countries, discerning a significantly negative impact. Further results suggested that both the volume and technological quality of investment are diminished in countries with limited IPRs.

All four commercial flows – patent applications, sales, exports, and level of affiliate investment assets – are strongly attracted by large markets, as measured by real GDP. A high average tariff rate tends to diminish FDI, as measured by assets. Local R&D performance is positively associated with each commercial flow as well. It also appears in this specification that investment incentives have a positive impact and disincentives a negative impact, on the level of FDI assets deployed across destination nations.

The level of average patent strength across countries is strongly associated with patent applications, though the sum of the coefficients on Patent and Patent*DD suggests that the effect is fairly weak in developing countries. Exports to affiliates are strongly positively affected by patent strength in developing economies. While the average patent strength has little evident effect on affiliate sales, the impact is significantly positive in developing countries. It is also interesting to note that the coefficient of the patent variable is negative and significant in the assets equation, but the impact in developing countries is significantly positive. While precise interpretation of this outcome is difficult, it is possible that multinational enterprises, in allocating their investment funds, are sensitive to improvements in IPRs in developing countries, even if they choose not to incur the expense of local patents to the same degree as in developed countries. However, the substitution effect between FDI and licensing noted earlier may be dominant once patent protection exceeds a particular level. In conjunction with the results in Lee and Mansfield, these findings indicate that levels of FDI are responsive to intellectual property rights in developing economies.

Technology Licensing and Joint Ventures

Transferring technology is a costly activity, whether done through FDI, arm's-length licensing contracts, or joint ventures. Licensing tends to be more expensive because aspects of the technology that are tied up in a firm's human capital, management, know-how and corporate culture are not easily transmitted. Transfer costs depend also on the recipient country's ability to absorb the technology efficiently, suggesting that additional licensing should emerge as the human-capital base of the economy rises. Also important are the transparency and certainty of the legal and regulatory systems.

There is survey evidence that IPRs affect the quality of technology transferred. The reasons that technology and product licensing should be particularly sensitive to IPRs are evident. First, stronger IPRs should reduce the costs of licensing by lowering the licensor's expense of deterring defection from contracts. Second, they should expand security over the protection of proprietary information in licensing deals. Third, stronger IPRs give the licensor greater ability to set and monitor terms under which licensees operate. Again, however, the sensitivity of technology licensing to IPRs varies with other factors as well, including the local supply of technical and managerial personnel, market factors, and collateral regulation.

Innovation and Diffusion

While technology and information developers have attained stronger strategic advantages from TRIPS, the agreement's ultimate benefits in global terms must come from inducing further technical innovation and enhancing its diffusion within and across borders. It is impossible to assess the prospects for this outcome with confidence, given the complications of the innovation and diffusion processes and the international variety of market structures.

Some key observations are worth making, however. First, surveys indicate that patents are important inducements to inventive activity in some sectors, including pharmaceuticals, chemicals, instruments, and automotive equipment. Patents or related devices also matter in plant varieties and basic biotechnological inventions. In these sectors, the TRIPS agreement should promote technology development and have the further benefit of inducing additional research into the product and technical needs of developing countries, including tropical medicines. Further, many firms currently undertaking R&D for purposes of imitating unpatented products should find opportunities for shifting into small-scale innovation for local

markets. Possibilities for the privatization of agricultural research in resource-abundant countries may expand as well as breeders' rights are protected.

In other industries, patentable innovation seems more associated with natural market advantages. Here, the TRIPS agreement more likely raises the return to patenting, adding rents to existing invention processes, with little net gain in innovation. Second, these basic tradeoffs exist with respect to other forms of IPRs as well. It is doubtful that firmer global copyright protection will result in significant additional amounts of literary, music, and entertainment production. Similarly, better protected trademarks in developing countries seem unlikely to expand incentives for product and brand development in the developed countries. However, there is potential for innovation to increase in developing countries as they raise their levels of IPRs. The development of legitimate local products under trademark and copyright protection seems to be an elastic process in developing countries with a viable base of skills and entrepreneurship.

The potential impacts of TRIPS on diffusion of technical information are also unclear. Copying of unpatented products is the core of the pharmaceutical industries in many developing countries. Imitation and literal copying also directly increase the supply of other products, perhaps of lower quality. Arguably, such imitation is the most important form of diffusion in many markets. These activities will be phased out globally, removing this channel of technology transfer. It is possible that this gap would be filled only partially and at high cost as foreign firms receive stronger protection. This view ignores the strong spillover impacts into local productivity that occur through the patenting process, which requires disclosure of technical information that may be used for follow-on invention. Even stronger gains in productivity emerge through imports of capital goods and technical inputs embodying advanced knowledge. As noted above, stronger international patents should increase the volume of this trade. Additional FDI would also bear potential for technology spillovers into local economies.

Scale and Substitution Effects

To the extent that trade, investment, and technology respond positively to the strength of property rights, all countries adopting tighter systems would experience some growth in them, implying a global scale effect. However, if they respond to international variations in IPRs, the significant narrowing of those differences

envisioned in TRIPS would ultimately reduce their importance. In this sense, those high-wage nations with relatively strong systems, such as Australia and Canada, that currently receive IPRs sensitive investment may suffer from a substitution effect toward lower-wage nations. Similarly, many developing nations may be frustrated in their expectations about the investment-enhancing impacts of adopting stronger minimum standards.

7.4 TRIPS as Protector and Problems with TRIPS

These complexities in the economic effects of IPRs point out that there are no simple rules about optimal regulation because they are inherently second-best policies at the national and international level. The question that remains is how operation of the new global system will affect static and dynamic incentives and the distribution of costs and benefits across countries. Time will tell whether the agreement is biased toward generating and diffusing pro-competitive growth or toward anti-competitive rent transfer on behalf of intellectual property developers.

7.4.1 TRIPS as an International Protecting Device

Benign purposes of regulation include correction of market failures and the pursuit of social and economic goals. Malign purposes include government favoritism and the satisfaction of rent-seeking activity. Extended to the level of international cooperation, the purposes of regulation include the correction of cross-border spillovers and the development of institutions that prevent national governments from taking unilateral actions that may harm both their own countries and foreign partners.

By markedly raising minimum standards of intellectual property protection, TRIPS eliminates the ability of governments to use weak IPRs as devices for both beneficial and harmful purposes. Weak protection might be thought to enhance possibilities for imitation and diffusion, enhancing growth in technologically lagging countries. There is little systematic evidence on this point. Poor countries have weak systems and IPRs tend to strengthen as development proceeds, but the direction of causation is not established and many other factors influence growth. Limited IPRs are also seen as a means for disciplining the pricing decisions of firms with technological or marketing advantages. In short, the absence of IPRs in many developing countries itself has been regarded as a form of regulation

emphasizing access over domestic innovation. Whether it has worked effectively or was the best means for doing so is doubtful.

Widespread absence of effective IPRs in many developing countries may constitute a low-level, non-cooperative equilibrium from which they will be extracted by adherence to TRIPS. Many countries had already defected from this position in response to the forces of globalization, but TRIPS could help deter additional regulatory competition. Again, however, there is no objective standard by which to assess whether the TRIPS standards reflect an efficient level at which to concentrate IPRs regimes. Seen as a program of international regulation, the agreement must be given a mixed scorecard. It is not clear that, on balance, it corrects domestic market failures more than exacerbates them. However, it disciplines governments that promote copying, which may be inefficient in a growth sense. It likely will shift the balance of lobbying power within countries toward local innovative firms. It re-channels the international information spillovers coming through uncompensated imitation into protected routes, which may embody higher prices but improved quality of technologies and products. To the extent that these spillovers were limiting global innovation, the agreement promises more growth.

7.4.2 Challenges and Problems with TRIPS

Despite these potential systemic gains, many countries view TRIPS as a means of denying them cheap access to foreign technical services. These countries will seek means of offsetting the potential anti-competitive effects of stronger property rights. In this sense, TRIPS has scope for safeguards by being vague on implementation and competition issues.

The agreement sets minimum standards in a wide range of functional areas but leaves open numerous means for implementing the standards in a pro-competitive fashion, provided that they do not unduly frustrate the intentions of TRIPS (UNCTAD, 1996). For example, countries are free to adopt the highest reasonable standards for non-obviousness in patents, to require adequate disclosure of technological information, and to limit protection to narrow patent claims. The last approach may be important for encouraging the development of local capacity to invent around patents, which remain overwhelmingly owned by firms in developed nations. Judicious use of non-exclusive compulsory licenses is allowed to

overcome abusive practices by patent holders, so long as adequate compensation is paid. Little is said in the agreement about fair-use exceptions in copyright for research and educational purposes. Thus, wide exceptions of this kind may be allowed. Particularly important would be a liberal stance on recompilation of computer programs, with the intent of encouraging follow-on software development. Nothing requires the patenting of software. Finally, there are no restrictions on the use of pricing regulations in drugs for purposes of supporting public health, which is a common policy in both developing and developed countries.

Most significantly, Article 40 of TRIPS provides wide latitude for competition policies. The agreement allows measures to control such practices, presenting a non-exhaustive list of three examples: exclusive grant-back conditions, conditions preventing challenges to validity, and coercive package licensing. Thus, while TRIPS envisions licensing abuses as key sources of anti-competitive behavior, the definition is not limited in that regard. Though several developing countries and countries in transition have recently upgraded or adopted competition regimes, this policy area is open to considerable transformation (OECD, 1996). The implementation of TRIPS affords an opportunity to consider the intimate linkages between intellectual property protection, trade liberalization, and competition policy. It is possible that stronger IPRs could interact with inadequate competition rules to render particular markets less competitive. This would be true, for example, where imports are subject to mandatory local distributorships. Patents and trademarks would raise the implicit monopoly privileges awarded such distributors.

In consequence, as the new TRIPS regime is phased in, countries need to ensure that firms do not extend its stronger protection beyond intended limits. While this area is complex, two issues stand out. First, a decision must be taken with respect to exhaustion of IPRs and the treatment of parallel imports. Denying parallel imports through legislation or exclusive-dealer requirements provides unrestrained opportunities for market segmentation and protects monopoly pricing, particularly in small markets. Second, a determination of whether particular licensing procedures are to be subject to administrative or judicial contest is required, whether on the basis of *per se* illegality or a rule of reason. The former standard may apply to clear attempts to monopolies horizontal production and distribution

channels, while the latter standard might apply to vertical arrangements and tied sales. As TRIPS suggests, patent licensing and extensive pooling arrangements, while not necessarily anti-competitive, might be subject to scrutiny.

7.5 Need of Protection of IPRs at National Level

In economic analysis, intellectual property rights – a temporary monopoly on the use of knowledge – are a ‘second best’ solution to a failure in markets for knowledge and information. The nature of this failure is well known. Optimal resource allocation requires that all goods be sold at marginal cost, which in the case of new knowledge is assumed to be practically zero: its sale does not diminish the stock to the holder and information is assumed to be transmitted practically without cost. Optimization thus demands that new knowledge be made available at marginal-cost or for free to all those who can use it. Moreover, it is assumed that others can, if not legally prevented, easily imitate new knowledge at little or no cost. Thus, under perfectly competitive conditions, there would be no incentive on the part of private agents to invest in the creation of new productive knowledge.

Since the creation and diffusion of new knowledge are desirable for growth, it is necessary to trade off static optimization in favour of dynamic considerations. The optimum solution would be for the governments of innovating countries to subsidize innovators until the costs of the subsidies equaled the benefits to society, and to then allow the dissemination of knowledge at marginal cost. It would be very difficult in practice to calculate the optimal research subsidy, and a practical second-best solution is to grant a temporary monopoly that enables innovators to reap ‘rents’ (profits in excess of normal competitive profits). It is admitted by analysts that this does not yield a perfect solution to the underlying market failure, but it is a workable compromise that has worked well in the past, at least in the industrial countries that are the source of the overwhelming bulk of innovation.

In theory, society reaps *four kinds of benefits* from granting temporary monopoly rights to innovators. Each is subject to qualifications.

- ***The stimulation of private innovation***

It is the primary economic benefit of IPRs. The importance of this benefit rises with the pace of technical change – as at present – and with the ‘immutability’ of new technology, particularly in such activities as software. It also grows with globalization, which leads innovators (in particular large transnational companies)

to gear their R&D to world rather than national markets. However, where the country in question has little or no local innovative capabilities, the strengthening of IPRs does not, by definition, stimulate domestic innovation. The extent to which it stimulates *global* R&D then depends on its share of the market for particular innovative activities and its ability to pay for expensive new products. Where the economy undertakes technological activity of an absorptive and adaptive kind – the great bulk of informal and R&D effort in newly industrializing countries – stronger IPRs may have no effect in stimulating it. On the contrary, to the extent that such effort involves copying and reverse engineering innovations elsewhere, it can constrict a vital source of learning, capability building and competitiveness.

- ***The use of the new knowledge in productive activity***

Without such use, of course, there can be no financial reward to innovators in terms of higher prices and profits; it leads to higher incomes, employment, competitiveness and so on for the economy as a whole. If the knowledge is not exploited within the economy, and its products are provided at higher prices than in with weak IPRs, the gains are correspondingly less and the costs correspondingly higher. There may still be gains, if innovation *per se* is stimulated by the existence of that country's market and the new products represent a real gain in consumer welfare. This gain has to be set against not just the higher prices induced by IPRs but also against reductions in local economic activity as a result of the monopoly and longer term growth potential (say, from the constriction of local technological development based on copying and reverse engineering).

- ***The dissemination of new knowledge to other agents***

With IPRs providing the legal instrument on which to base contractual agreements (e.g. for procurement, licensing or sales). Stricter IPRs may facilitate the transfer of technology across national borders as well as increase local diffusion by providing an enforceable legal framework. This is likely to be of special significance for technology-intensive products and activities, where innovators are averse to selling technology to countries with weak IPRs, where leakage is a real possibility. It is also significant for large innovators that seek to enter into technology alliances and contracts with each other: this is the main reason why firms in industries like electronics (where IPRs are not important to protect innovation) take out patents. Note that *the legal framework raises the cost of*

technology to the buyer – otherwise it would be redundant: the payoff for buyers lies in the higher quantity and quality of knowledge flows. The economic benefit in a developing country depends on the presence of local agents capable of purchasing, absorbing and deploying new technologies, particularly complex high technologies. If no such agents exist, strict IPRs offer no benefit for technology transfer. If they exist, the size of the benefits depends on two things: the extent to which strict IPRs raise the cost of buying technologies, and whether the alternatives of copying and reverse engineering would have been feasible, cheaper and more rewarding in building up local technological capabilities.

- ***The stimulation of innovation by other enterprises***

It is based on information disclosed in the patent. This is a very important benefit of the IPR system, but clearly its value is primarily to economies where there is intense innovative activity by large numbers of competing enterprises. Innovation 'around' a particular patent is one of the most dynamic sources of technological progress. However, this is of little or no value to poor and unindustrialized countries that lack a local innovative base.

These qualifications are, of course, acknowledged in the IPR literature. It is widely accepted that the importance of IPRs varies considerably by *two variables*:

- ❖ ***Technological nature of the activity***

The role of patents in stimulating R&D varies by activity. In industries where it is relatively easy for a competent firm to copy new products – fine chemicals and pharmaceuticals are the best examples – patents are vital for sustaining the large and risky R&D expenditures needed for product innovation. However, in industries where copying is very difficult and expensive (these industries account for a bulk of manufacturing in most countries), patents *per se* are not important for appropriating the benefits from innovation. There is a high degree of 'tacit' knowledge (technology-specific skills, experience, learning, information and organization needed to be competitive) in technological activities in these industries. The best examples are complex engineering, electronics and much of 'heavy' industry, but there are many others.

The classic analysis of these differences is by Mansfield, who found large industry-wise differences in the innovation-promoting role of patents in the US. His analysis was based on responses from corporate executives about the share of innovative

activity that would be deterred by the absence of patent protection. The results were: 65% in pharmaceuticals, 30% in chemicals, 18% in petroleum, 15% in machinery, 12% in metal products, 8% in primary metals, 4% in electrical machinery, 1% in other machinery and nil in office equipment, motor vehicles, rubber, and textiles. While executive responses may not always accurately reflect underlying economic forces, Mansfield's survey is in line with the findings of other studies. In particular, the special role of patents in pharmaceutical innovation is universally accepted. It also reflects what is known about industrial differences in tacit knowledge. Thus, the need for IPRs to promote innovation or technology transfer cannot be identical across activities; correspondingly, the ideal IPR regime must depend on the structure of economic activities in each country. Countries with little productive investment in IPR-sensitive activities need less strict regimes than those with such activities, at least as technological factors are concerned. Many developing countries have negligible industrial activities in the former category. In fact, to the extent that they have local pharmaceutical industries, they have much to gain by weak IPRs that allow them to build up domestic capabilities. It is only when they reach the stage of innovating that they need strong IPRs even in these activities.

❖ *Nature of the economy*

More relevant to the present discussion is that the significance of IPRs varies by the level of development. As the World Bank notes, the main beneficiaries of TRIPS are the advanced countries that produce innovations. There are few benefits in terms of stimulating local innovation in developing countries. On the contrary, while there certainly is technological activity in many such countries, it consists mainly of learning to use imported technologies efficiently rather than to innovate on the technological frontier. Weak IPRs can help local firms in early stages to build technological capabilities by permitting imitation and reverse engineering. This is certainly borne out by the experience of the East Asian 'Tigers' like Korea and Taiwan that developed strong indigenous firms in an array of sophisticated industries.

The available historical and cross-section evidence supports the presumption that the need for IPRs varies with the level of development. Many rich countries used weak IPR protection in their early stages of industrialization to develop local technological bases, increasing protection as they approached the leaders.

Econometric cross-section evidence suggests that there is an inverted-U shaped relationship between the strength of IPRs and income levels. The intensity of IPRs first falls with rising incomes, as countries move to slack IPRs to build local capabilities by copying, then rises as they engage in more innovative effort. The turning point is \$7,750 per capita in 1985 prices (cited in World Bank, 2001), a fairly high level of income for the developing world.

Theory also suggests that the benefits of IPRs rise with income and that at very low levels the costs of strengthening IPRs may well outweigh the gains. Maskus notes *three potential costs*.

1. Higher prices for imported products and new technologies under IPR protection.
2. Loss of economic activity, by the closure of imitative activities.
3. The possible abuse of protection by patent holders, especially large foreign companies.

Maskus goes on to argue, however, that these costs are more than offset by the *longer-term benefits* of IPRs, even in developing countries. These benefits are as follows (with qualifications):

1. IPRs provide "an important *foundation for sophisticated business structures*" and indicate that private property rights in general are well enforced. There may certainly exist an important *signaling function* of IPRs, particularly in countries that previously had policy regimes inimical to private investment and property rights. Note, however, that while strong IPRs may well be associated with sophisticated business structures, the causation is likely to run from the latter to the former. It is difficult to believe that strong IPRs actually *cause* the business systems to become more complex: many countries with sophisticated industrial and corporate structures have had lax IPRs. On the signaling function, more research is needed before it can be asserted with confidence that IPRs *by themselves* are important. It is possible those other signals are considered more important by investors or technology sellers, and that the overall environment for business matters more than IPRs. Casual empiricism suggests that lax IPRs have not deterred FDI in China or Brazil, or held back technology licensing in Korea and Taiwan, when these countries had weak protection.

2. *Other kinds of technological activity* in developing countries (i.e. apart from innovation) also benefit from strong IPRs. This applies, however, more to

copyright and trademark protection (where strong protection can encourage quality improvement) rather than to patenting. As far as patenting goes, it is mainly the advanced newly industrializing countries that will need TRIPS to boost local R&D. The least developed countries are unlikely to benefit in any technological sense. Those between the two, countries still building technological capabilities by imitating and reverse engineering, may lose. Remember that the rationale of TRIPS is letting innovators charge higher prices for their protected physical and intellectual products. If TRIPS is at all effective, it must lead to more costly and restricted technology for local firms in poor countries.

3. Economies without advanced technological capabilities may, by strengthening IPRs, stimulate global innovation by adding to effective demand for new products. This argument would apply to activities in which poor countries constituted a significant share of the market catered to by innovators. However, in most activities in which patents matter for innovation, as in pharmaceuticals, the specific products needed by poor countries constitute a tiny fraction of global demand. So far, leading innovators have undertaken very little R&D of specific interest to poor countries – this is simply not profitable enough (UNDP and World Bank). There is therefore little reason to believe that global R&D would rise with stronger IPRs in these countries or that it would address their specific needs. The argument that strong IPRs in developing countries would promote global R&D has another fallacy. Small, poor countries are not only likely to remain irrelevant to innovation after TRIPS, they may suffer reduced industrial activity if industry leaders use IPRs to close local facilities and import the product from other production sites. This is actually happening in a number of developing countries, but its full incidence needs further investigation.

4. Strong IPRs will stimulate greater technology transfer over the longer-term to developing countries. This may apply to all its main forms: *capital goods*, *FDI* and *licensing*. The main evidence on this comes from some cross-country econometric tests that suggest a positive correlation between the strength of IPRs and capital goods imports, inward FDI and licensing payments. These studies, however, are subject to caveats, and other studies have more ambiguous implications (World Bank). The correlation between IPRs and capital goods imports, for instance, may be due to unobserved variables that tend to rise with IPRs. For instance, higher levels of income, stronger technological capabilities,

greater ability to pay, and so on, may be the cause of greater equipment purchases rather than stronger IPRs *per se*. This is not to deny that the sale of some high-tech equipment may be affected by weak IPR regimes. Even where this is true, it is likely to be significant only for economies with advanced industrial capabilities rather than to typical developing countries. For the latter, if TRIPS raises the price of equipment, there is a net loss to productive capacity. In any case, anecdotal evidence does not suggest weak IPRs in countries like Korea and Taiwan prevented them from buying advanced capital goods in their most intense periods of industrialization.

As far as *FDI* goes, most studies suggest that IPRs come fairly low on the list of factors affecting TNC location decisions. However, the general tightening of IPRs in recent years may itself have raised their *signaling value* to investors: countries with stronger property rights protection may, as a result, be regarded as more favorably inclined to private business. The extent to which this is so needs more empirical investigation. Even if this were found to be true, it would suggest failures in information markets affecting FDI location rather than the value to TNCs of intellectual property protection as such. Because of such unobserved variables, the cross-country econometric evidence on the positive and significant impact of IPR strength on FDI inflows is again of rather dubious value. What is more plausible is, as case study evidence suggests, that the deterrent effect of weak IPRs is fairly industry specific. As Mansfield notes in his survey of US TNCs, investment is likely to be sensitive to IPRs mainly in industries like pharmaceuticals. Other FDI – constituting the bulk of investment of interest to developing countries – is not likely to be affected by IPRs. In fact, the largest recipients of inward FDI in the developing world in the past two decades or so, led by China, have not been models of strong intellectual property protection. TNCs have had many other advantages that have served to effectively protect their proprietary intellectual assets.

Even in IPR-sensitive industries like pharmaceuticals, the evidence does not establish that TNCs have stayed away from developing countries with weak IPRs. TNCs have invested large sums in this industry in countries like Brazil or India, which have built up among the most advanced pharmaceutical industries in the developing world, in both local enterprises and TNC affiliates. Several pharmaceutical TNCs have been contracting R&D to national laboratories in India

for the past 10-15 years. At the same time, weak IPRs have facilitated a massive growth of pharmaceutical exports by India, with local firms building capabilities in making generic products. It is difficult, therefore, to make a case that TRIPS would, by itself, lead to a significant surge in FDI to developing countries. It is possible to argue, however, that India has now reached a stage in pharmaceutical production where stronger IPRs would induce greater innovation by local firms the benefits of which would have to be set off against the closure of other firms. This clearly does not provide a case for similar IPRs in countries in earlier stages of industrial development – if anything, it is an argument for lax IPRs to encourage the growth of local firms until they reach the stage of Indian firms today.

Note also that the TNC response to IPRs is likely to be function specific. Survey evidence suggests that high level R&D is more likely to be affected by the IPR regime than basic production or marketing. The relocation of R&D is not of great practical significance to most developing countries, since very few can hope to receive such functions; it is only the more advanced NIEs that may suffer from lax IPRs. Similar arguments apply to *licensing*. Lax IPRs are likely to deter licensing mainly in the advanced activities of interest to the leading NIEs. They are unlikely to affect technology transfer to other developing countries, which generally purchase more mature technologies. At the same time, the higher costs of technology transfer inherent in TRIPS are likely to impose an immediate penalty on them. It is suggested, however, that local *diffusion* of technology will benefit from stronger IPRs because of the clearer legal framework it provides. This is certainly possible, but the evidence on this needs to be more closely investigated. Anecdotal evidence does not however suggest that lax IPRs held back licensing of local firms in such economies as Korea and Taiwan.

All the arguments suggest, therefore, that it is vital to distinguish between levels of development in assessing the impact of TRIPS in the developing world. As Maskus rightly suggests, the relationships between IPRs and growth remain 'complex' and 'dependent on circumstances'. We can agree that stronger IPRs are probably beneficial for countries launching into serious R&D activity in terms of promoting local innovation and attracting certain kinds of FDI and other technology inflows. There does not, however, seem to be a case for applying stronger IPRs uniformly across the developing world. As the outcome is likely to be context specific,

economic considerations call for a differentiated approach to TRIPS according to levels of industrial and technological capabilities.

7.6 Summary

The emerging global system of protection for intellectual property, as embodied primarily in the TRIPS agreement, strongly re-balances global policies in favour of information developers. Economic arguments cannot conclusively demonstrate that this change will encourage additional innovation and international dissemination of technologies and products. The preponderance of econometric and survey evidence tentatively supports this conclusion, however.

At the same time, concerns persist that protected firms will choose to exercise their stronger rights in anti-competitive ways, raising prices and license fees and reducing international access to technology. There is some truth to this position, though the extent of these costs is dependent on numerous aspects of market structure and regulation. The TRIPS agreement provides wide discretion for enacting pro-competitive implementation strategies and competition rules.

In pursuing such a route, however, countries must recognize two dangers. First, a delicate balance needs to be struck between maintaining competition and promoting local innovation, on the one hand, and encouraging commercial activity from abroad. Second, over-enthusiastic pursuit of means to limit the benefits of TRIPS will invite future trade disputes. This may be especially true in that the high costs of enforcement may discourage some governments from administering their obligations effectively. A notable systemic benefit of TRIPS is that it folds intellectual property disputes into the recognized multilateral dispute-settlement mechanism.

7.7 Self Assessment Test

1. Is it necessary to recognize intellectual assets as property? If yes then point out the challenges and problems in this regard.
2. Discuss the new global system for protection of IPRs in reference to TRIPS.
3. Do you consider TRIPS to be protector of IPRs at International level? Give reasons to your answer.
4. Explain the shortcomings of protection provided by the TRIPS to IPRs.

5. Discuss briefly the need of protection of IPRs at domestic level.

7.8 Further Readings

1. Fink, Carsten and Maskus, Keith E. *Intellectual Property and Development: lessons from recent economic research*. Washington, D.C.: World Bank and Oxford University Press. 2005.
2. Intellectual Property Law Journals.
3. WIPO Intellectual Property Handbook, (2004); WIPO Intellectual Property Law: Introductory notes; *WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).

Unit 8

IPR and Legal Regime in India

Objectives:

After going through this unit, you should be able to understand the various aspects of protection provided to intellectual property rights by the legal regime in India and main provisions of statutes.

Structure:

- 8.1 Introduction
 - 8.2 Legal History of IPR in India
 - 8.2.1 *History of Copyright Law in India*
 - 8.2.2 *History of Patent Law in India*
 - 8.2.3 *History of Trademark Law in India*
 - 8.3 An Overview of Laws Protecting IPRs in India
 - 8.3.1 *Copyright Law in India*
 - 8.3.2 *Patent Law in India*
 - 8.3.3 *Trademark Law in India*
 - 8.3.4 *Design Law in India*
 - 8.3.5 *Laws relating to Geographical Indication of Goods*
 - 8.3.6 *Law Relating to Semiconductor Integrated Circuits Layout-Design*
 - 8.3.7 *Law Relating to Biological Diversity*
 - 8.3.8 *Law Relating to Protection of Plant Varieties and Farmers Rights*
 - 8.3.9 *Law Relating to Undisclosed Information*
 - 8.4 Initiatives of Government of India towards Protection of IPR
 - 8.5 Summary
 - 8.6 Self Assessment Test
 - 8.7 Further Readings
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8.1 Introduction

Intellectual property has assumed central importance throughout the world in the recent past. Intellectual property, which was mainly the subject matter of the World Intellectual Property Organization (WIPO) has also become a part of World

Trade Organization (WTO) regime in 1995. The TRIPS Agreement of the WTO Treaty evolved minimum standards for the protection of intellectual property for member states to incorporate in their municipal laws.

Intellectual property is the creative work of the human intellect. The main motivation of its protection is to encourage and reward creativity. Nations give statutory expression to the economic rights of creators in their creations, and to the rights of public in accessing those creations. This is instrumental in promoting creativity and in the dissemination and application of its results. The contribution of intellectual property to industrial and economic development of a country is substantial. The propriety achieved by developed nations is the result of exploitation of their intellectual property.

Intellectual property relates to pieces of information which can be incorporated in tangible objects at the same time in an unlimited number of copies at different locations anywhere in the world. The property is not in those copies, but in the information reflected in those copies. According to Article 2(viii) of the 'Convention Establishing the World Intellectual Property Organization (WIPO) 1967', intellectual property includes rights relating to (i) literary, artistic and scientific works; (ii) performance of performing artists, phonograms and broadcasts; (iii) inventions in all fields of human endeavor; (iv) scientific discoveries; (v) industrial designs; (vi) trademarks, service marks and commercial names and designations; (vii) protection against unfair competition; and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields. The intellectual property thus, includes copyright, trademarks, service marks, geographical indications, patents, utility models, plant varieties, industrial designs, trade secrets, layout design of integrated circuits, etc. Intellectual property is usually divided in two branches-

(i) Copyright and

(ii) Industrial property

Industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and

Copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms

in their recordings, and those of broadcasters in their radio and television programs.

8.2 Legal History of IPR in India

George Alfred De Penning is supposed to have made the first application for a patent in India in the year 1856. On February 28, 1856, the Government of India promulgated legislation to grant what was then termed as "exclusive privileges for the encouragement of inventions of new manufactures" i.e the Patents Act. On March 3, 1856, a civil engineer, George Alfred De Penning of 7, Grant's Lane, Calcutta petitioned the Government of India for grant of exclusive privileges for his invention - "An Efficient Punkah Pulling Machine". On September 2, De Penning, submitted the Specifications for his invention along with drawings to illustrate its working. These were accepted and the invention was granted the first ever Intellectual Property protection in India.

8.2.1 History of Copyright Law in India

Modern copyright law developed in India gradually, in a span of more than 150 years. Copyright law entered India in 1847 through an enactment during the East India Company's regime. According to the 1847 enactment, the term of copyright was for the lifetime of the author plus seven years post-mortem. But in no case could the total term of copyright exceed a period of forty-two years. The government could grant a compulsory license to publish a book if the owner of copyright, upon the death of the author, refused to allow its publication. The act of infringement comprised in a person's unauthorized printing of a copyright work for (or as a part of attempt of) "sale hire, or exportation", or "for selling, publishing or exposing to sale or hire". Suit or action for infringement was to be instituted in the "highest local court exercising original civil jurisdiction". The Act provided specifically that under a contract of service copyright in "any encyclopedia, review, magazine, periodical work or work published in a series of books or parts" shall vest in the "proprietor, projector, publisher or conductor". Infringing copies were deemed to be copies of the proprietor of copyrighted work. Importantly, unlike today copyright in a work was not automatic. Registration of copyright with the Home Office was mandatory for the enforcement of rights under the Act. However, the Act also specifically reserved the subsistence of copyright in the

author, and his right to sue for its infringement to the extent available in law other than the 1847 Act. At the time of its introduction in India, copyright law had already been under development in Britain for over a century and the provisions of the 1847 enactment reflected the learning's from deliberations during this period. In 1914, the then Indian legislature enacted a new Copyright Act which merely extended most portions of the United Kingdom Copyright Act of 1911 to India. It did, however, make a few minor modifications. First, it introduced criminal sanctions for copyright infringement (sections 7 to 12). Second, it modified the scope of the term of copyright; under section 4 the "sole right" of the author to "produce, reproduce, perform or publish a translation of the work shall subsist only for a period of ten years from the date of the first publication of the work". The author, however, retained her "sole rights" if within the period of ten years she published or authorized publication of her work a translation in any language in respect of that language. The 1914 Act was continued with minor adaptations and modifications till the 1957 Act was brought into force on 24th January, 1958.

8.2.2 History of Patent Law in India

The first legislation in India relating to patents was the Act VI of 1856. The objective of this legislation was to encourage inventions of new and useful manufactures and to induce inventors to disclose secret of their inventions. The Act was subsequently repealed by Act IX of 1857 since it had been enacted without the approval of the sovereign. Fresh legislation for granting 'exclusive privileges' was introduced in 1859 as Act XV of 1859. This legislation contained certain modifications of the earlier legislation, namely, grant of exclusive privileges to useful inventions only and extension of priority period from 6 to 12 months. The Act excluded importers from the definition of inventor. The 1856 Act was based on the United Kingdom Act of 1852 with certain departures including allowing assignees to make application in India and also taking prior public use or publication in India or United Kingdom for the purpose of ascertaining novelty.

The Act of 1859 provided protection for invention only and not for designs whereas United Kingdom had been protecting designs from 1842 onwards. To remove this lacuna, the 'Patterns and Designs Protection Act' (Act XIII) was passed in 1872. This Act amended the 1859 Act to include any new and original pattern or design or the application of such pattern to any substance or article of

manufacture within the meaning of 'new manufacture'. The Act XV of 1859 was further amended in 1883 by XVI of 1883 to introduce a provision to protect novelty of the invention, which prior to making application for their protection were disclosed in the Exhibitions of India. A grace period of 6 months was provided for filing such applications after the date of the opening of such Exhibition. In 1888, new legislation was introduced to consolidate and amend the law relating to invention and designs in conformity with the amendments made in the UK law.

In 1911, the Indian Patents and Designs Act, 1911, (Act II of 1911) was brought in replacing all the previous legislations on patents and designs. This Act brought patent administration under the management of Controller of Patents for the first time. This Act was amended in 1920 to provide for entering into reciprocal arrangements with UK and other countries for securing priority. In 1930, further amendments were made to incorporate, *inter-alia*, provisions relating to grant of secret patents, patent of addition, use of invention by Government, powers of the Controller to rectify register of patent and increase of term of the patent from 14 years to 16 years. In 1945, another amendment was made to provide for filing of provisional specification and submission of complete specification within nine months.

After Independence, it was felt that the Indian Patents & Designs Act, 1911 was not fulfilling its objective. It was found desirable to enact comprehensive patent law owing to substantial changes in political and economic conditions in the country. Accordingly, the Government of India constituted a committee under the Chairmanship of Justice (Dr.) Bakshi Tek Chand, a retired Judge of Lahore High Court, in 1949, to review the patent law in India in order to ensure that the patent system is conducive to the national interest.

The Committee submitted its interim report on 4th August, 1949 with recommendations for prevention of misuse or abuse of patent right in India and for amendments to sections 22, 23 & 23A of the Patents & Designs Act, 1911 on the lines of the United Kingdom Acts of 1919 and 1949. Based on the recommendations of the Committee, the 1911 Act was amended in 1950 (Act XXXII of 1950) in relation to working of inventions and compulsory licence/revocation. In 1952, an amendment was made to provide compulsory licence in relation to patents in respect of food and medicines, insecticide,

germicide or fungicide and a process for producing substance or any invention relating to surgical or curative devices, through Act LXX of 1952. The compulsory licence was also available on notification by the Central Government. Based on the recommendations of the Committee, a bill was introduced in the Parliament in 1953 (Bill No.59 of 1953). However, the bill lapsed on dissolution of the Lok Sabha.

In 1957, the Government of India appointed Justice N. Rajagopala Ayyangar Committee to examine the question of revision of the Patent Law and advise government accordingly. The report of the Committee, which comprised of two parts, was submitted in September, 1959. The first part dealt with general aspects of the patent law and the second part gave detailed note on the several clauses of the lapsed bill of 1953. The first part also dealt with evils of the patent system and solution with recommendations in regard to the law. The committee recommended retention of the patent system, despite its shortcomings. This report recommended major changes in the law which formed the basis of the introduction of the Patents Bill, 1965. This bill was introduced in the Lok Sabha on 21st September, 1965, which, however, lapsed.

In 1967, an amended bill was introduced which was referred to a Joint Parliamentary Committee and on the final recommendation of the Committee, the Patents Act, 1970 was passed. This Act repealed and replaced the 1911 Act so far as the patents law was concerned. However, the 1911 Act continued to be applicable to designs. Most of the provisions of the 1970 Act were brought into force on 20th April, 1972 with the publication of the Patents Rules, 1972. This Act remained in force for about 24 years till December 1994 without any change. An ordinance effecting certain changes in the Act was issued on 31st December 1994, which ceased to operate after six months. Subsequently, another ordinance was issued in 1999. This ordinance was later replaced by the Patents (Amendment) Act, 1999 that was brought into force retrospectively from 1st January, 1995. The amended Act provided for filing of applications for product patents in the areas of drugs, pharmaceuticals and agro chemicals though such patents were not allowed. However, such applications were to be examined only after 31st December, 2004. Meanwhile, the applicants could be allowed Exclusive Marketing Rights (EMRs) to sell or distribute these products in India, subject to fulfillment of certain conditions.

The second amendment to the 1970 Act was made through the Patents (Amendment) Act, 2002 (Act 38 Of 2002). This Act came into force on 20th May, 2003 with the introduction of the new Patents Rules, 2003 by replacing the earlier Patents Rules, 1972. The third amendment to the Patents Act, 1970 was introduced through the Patents (Amendment) Ordinance, 2004 with effect from 1st January, 2005. This Ordinance was later replaced by the Patents (Amendment) Act, 2005 (Act 15 Of 2005) on 4th April, 2005 which was brought into force from 1st January, 2005.

8.2.3 History of Trademark Law in India

While some form of proprietary protection for marks in India dates back several millennia, India's statutory Trademarks Law dates back to 1860. Prior to 1940 there was no official trademark Law in India. Numerous problems arose on infringement, law of passing off etc and these were solved by application of section 54 of the Specific Relief Act, 1877 and the registration was obviously adjudicated by obtaining a declaration as to the ownership of a trademark under Indian Registration Act 1908.

To overcome the aforesaid difficulties the Indian Trademarks Act was passed in 1940, this corresponded with the English Trademarks Act. After this there was an increasing need for more protection of Trademarks as there was a major growth in Trade and Commerce. The replacement to this act was the Trademark and Merchandise Act, 1958. This Act was to provide for registration and better protection of Trademarks and for prevention of the use of fraudulent marks on merchandise. This Law also enables the registration of trademarks so that the proprietor of the trademark gets legal right to the exclusive use of the trademark. The objective of this act was easy registration and better protection of trademarks and to prevent fraud.

The repeal of the Trademarks and Merchandise Act gave rise to the Trademark Act 1999; this was done by the Government of India so that the Indian Trademark Law is in compliance with the TRIPS obligation on the recommendation of the World Trade Organization. The object of the 1999 Act is to confer the protection to the user of the trademark on his goods and prescribe conditions on acquisition, and legal remedies for enforcement of trademark rights.

8.3 An Overview of Laws Protecting IPRs in India

The Trade Related Aspects of Intellectual Property Rights Agreement (TRIPS) culminated at the end of seven years of negotiations from 1986 to 1993, as part of the Uruguay Round of Multilateral Trade Negotiations of the GATT. The TRIPS Agreement came into force on the 1st of January 1995, with the establishment of the World Trade Organization. The Trade Related Aspects of Intellectual Property Rights Agreement (1995) provides for minimum norms and standards in respect of the following categories of intellectual property rights: Copyrights and Related Rights (rights of performers, producers of phonograms and broadcasting organizations), Trademarks, Geographical Indications, Industrial Designs, Patents, Layout Designs of Integrated Circuits and the protection of Undisclosed Information. The Trade Related Aspects of Intellectual Property Rights Agreement under Article 2 (Intellectual Property Conventions) obligates a compliance with Articles 1-12 and Article 19 of the Paris Convention for the Protection of Intellectual Property (1967) and provides that nothing in the given Agreement shall derogate from the existing obligations prescribed under the Paris Convention, the International Convention for the Protection of Performers, Producers of Phonograms, and Broadcasting Organizations (Rome Convention) (1961), the Berne Convention for the Protection of Literary and Artistic Works (1971) and the Treaty on Intellectual Property in Respect of Integrated Circuits (1989). Now let's discuss the Indian Laws.

8.3.1 Copyright Law in India

The Copyright Act of 1957, The Copyright Rules, 1958 and the International Copyright Order, 1999 governs the copyright protection in India. It came into effect from January 1958. The Act has been amended in 1983, 1984, 1992, 1994 and 1999. Before the Act of 1957, copyright protection was governed by the Copyright Act of 1914 which was the extension of British Copyright Act, 1911. The Copyright Act, 1957 consists of 79 sections under 15 chapters while the Copyright Rules, 1958 consists of 28 rules under 9 chapters and 2 schedules.

Meaning of copyright

According to Section 14 of the Act, "copyright" means the exclusive right subject to the provisions of this Act, to do or authorize the doing of any of the following acts in respect of a work or any substantial part thereof, namely:-

(a) in the case of a literary, dramatic or musical work, not being a computer programme, -

(i) to reproduce the work in any material form including the storing of it in any medium by electronic means;

(ii) to issue copies of the work to the public not being copies already in circulation;

(iii) to perform the work in public, or communicate it to the public;

(iv) to make any cinematograph film or sound recording in respect of the work;

(v) to make any translation of the work;

(vi) to make any adaptation of the work;

(vii) to do, in relation to a translation or an adaptation of the work, any of the acts specified in relation to the work in sub-clauses (i) to (vi);

(b) in the case of a computer programme, -

(i) to do any of the acts specified in clause (a);

(ii) to sell or give on commercial rental or offer for sale or for commercial rental any copy of the computer programme;

Provided that such commercial rental does not apply in respect of computer programmes where the programme itself is not the essential object of the rental.

(c) in the case of an artistic work, -

(i) to reproduce the work in any material form including depiction in three dimensions of a two dimensional work or in two dimensions of a three dimensional work;

(ii) to communicate the work to the public;

(iii) to issue copies of the work to the public not being copies already in circulation;

(iv) to include the work in any cinematograph film;

(v) to make any adaptation of the work;

(vi) to do in relation to an adaptation of the work any of the acts specified in relation to the work in sub-clauses (i) to (iv);

(d) In the case of cinematograph film, -

- (i) to make a copy of the film, including a photograph of any image forming part thereof;
- (ii) to sell or give on hire, or offer for sale or hire, any copy of the film, regardless of whether such copy has been sold or given on hire on earlier occasions;
- (iii) to communicate the film to the public;
- (e) In the case of sound recording, -
 - (i) to make any other sound recording embodying it;
 - (ii) to sell or give on hire, or offer for sale or hire, any copy of the sound recording regardless of whether such copy has been sold or given on hire on earlier occasions;
 - (iii) to communicate the sound recording to the public.

Explanation : For the purposes of this section, a copy which has been sold once shall be deemed to be a copy already in circulation.

Classes of works for which copyright protection is available

Indian Copyright Act affords separate and exclusive copyright protection to the following 7 clauses of work:

1. Original Literary Work
2. Original Dramatic Work
3. Original Musical Work
4. Original Artistic Work
5. Cinematograph Films
6. Sound recording
7. Computer Programme

Copyright will not subsist in any cinematograph film if a substantial part of the film is an infringement of the copyright in any other work or in any sound recording made in respect of a literary, dramatic or musical work, if in making the sound recording, copyright in such work has been infringed. In case of work of architecture, copyright will subsist only in the artistic character and design and will not extend to processes or methods of construction.

Ownership of Copyright

The author of the work will be the first owner of the copyright in the following instances:

- i. In the case of a literary, dramatic or artistic work made by the author in the course of his employment by the proprietor of a newspaper, magazine or similar periodical under a contract of service or apprenticeship, for the purpose of publication in a newspaper, magazine or similar periodical, the said proprietor will, in the absence of any agreement to the contrary, be the first owner of the copyright in the work in so far as the copyright relates to the publication of the work in any newspaper, magazine or similar periodical, or to the reproduction of the work for the purpose of its being so published, but in all other respects the author will be the first owner of the copyright in the work.
- ii. In the case of a photograph taken, or a painting or portrait drawn, or an engraving or a cinematograph film made, for valuable consideration at the instance of any person, such person will, in the absence of any agreement to the contrary, be the first owner of the copyright therein.
- iii. In the case of a work made in the course of the author's employment under a contract of service or apprenticeship, the employer will, in the absence of any agreement to the contrary, be the first owner of the copyright therein.
- iv. In the case of any address or speech delivered in public, the person who has delivered such address or speech or if such person has delivered such address or speech on behalf of any other person, such other person will be the first owner of the copyright therein notwithstanding that the person who delivers such address or speech, or, as the case may be, the person on whose behalf such address or speech is delivered, is employed by any other person who arranges such address or speech or on whose behalf or premises such address or speech is delivered.
- v. In the case of a government work, government in the absence of any agreement to the contrary, will be the first owner of the copyright therein.
- vi. In the case of a work made or first published by or under the direction or control of any public undertaking, such public undertaking in the absence of any agreement to the contrary, will be the first owner of the copyright therein.
- vii. In case of any work which is made or first published by or under the directions or control of any international organization, such international organization will be the first owner of the copyright therein.

8.3.2 Patent Law in India

What is Patent?

Patent is a grant for an invention by the Government to the inventor in exchange for full disclosure of the invention. A patent is an exclusive right granted by law to applicants / assignees to make use of and exploit their inventions for a limited period of time (generally 20 years from filing). The patent holder has the legal right to exclude others from commercially exploiting his invention for the duration of this period. In return for exclusive rights, the applicant is obliged to disclose the invention to the public in a manner that enables others, skilled in the art, to replicate the invention. The patent system is designed to balance the interests of applicants / assignees (exclusive rights) and the interests of society (disclosure of invention).

Meaning of 'Invention' under Patent Law

Sec.2 (1) (J) – “Invention” means a new product or process involving an inventive step and capable of industrial application

What is not an 'Invention'?

According to Sec 3 of the Patent Act, 1970.

- ❖ Frivolous inventions
- ❖ Inventions contrary to well established natural laws
- ❖ Commercial exploitation or primary use of inventions,
 - which is contrary to public order or morality
 - which causes serious prejudice to health or human, animal, plant life or to the environment
- ❖ Mere Discovery of a Scientific Principle or
- ❖ Formulation of an Abstract Theory or
- ❖ Discovery of any living thing or
- ❖ Discovery of non-living substance occurring in nature
- ❖ Mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus, *unless such known process results in a new product or employs at least one new reactant.*
- ❖ Substance obtained by mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance.

- ❖ Mere arrangement or re-arrangement or duplication of known devices, each functioning independently of one another in a known way.
- ❖ Method of Agriculture or Horticulture
- ❖ Any process for medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings *or* a similar treatment of animals to render them free of disease *or* to increase their economic value or that of their products.
- ❖ Plants & animals in whole or any part thereof other than micro-organisms, but including seeds, varieties and species and essentially biological process for production or propagation of plants & animals
- ❖ mathematical method or
- ❖ business method or
- ❖ algorithms or
- ❖ computer programme *per se*
- ❖ A literary, dramatic, musical or artistic work or any other aesthetic creation including cinematographic work and television productions
- ❖ Presentation of information
- ❖ Topography of integrated circuits.
- ❖ Inventions which are Traditional Knowledge or an aggregation or duplication of known properties of traditionally known component or components

What is meant by "New"?

The invention to be patented must not be published in India or elsewhere, or in prior public knowledge or prior public use within India or claimed before in any specification in India.

A feature of an invention that involves technical advance as compared to the existing knowledge or have economic significance or both and makes the invention not obvious to a person skilled in the art.

What can be patented?

Any invention concerning with composition, construction or manufacture of a substance, of an article or of an apparatus or an industrial type of process.

What cannot be patented?

Inventions falling within Section 20(1) of the Atomic Energy Act, 1962.

Who are the beneficiaries of the patent grant?

1. The inventor is secure from competition and can exploit the invention for his gain.
2. For the public the invention becomes public knowledge. The technology is freely available after expiry of patent and cheaper and better products become available.

What is meant by patentable invention?

A new product or process, involving an inventive step and capable of being made or used in an industry. It means the invention to be patentable should be technical in nature and should meet the following criteria –

- **Novelty:** The matter disclosed in the specification is not published in India or elsewhere before the date of filing of the patent application in India.
- **Inventive Step:** The invention is not obvious to a person skilled in the art in the light of the prior publication/knowledge/ document.
- **Industrially applicable:** Invention should possess utility, so that it can be made or used in an industry.

What is not patentable?

The following are Non-Patentable inventions within the meaning of Section 3 of Patents Act, 1970 –

- (a) an invention which is frivolous or which claims anything obviously contrary to well established natural laws;
- (b) an invention the primary or intended use or commercial exploitation of which could be contrary to public order or morality or which causes serious prejudice to human, animal or plant life or health or to the environment; (For e.g. process of making brown sugar will not be patented.)
- (c) The mere discovery of a scientific principle or the formulation of an abstract theory (or discovery of any living thing or non-living substances occurring in nature);
- (d) the mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or mere new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant;

- (e) a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance;
- (f) the mere arrangement or re-arrangement or duplication of known devices each functioning independently of one another in a known way;
- (g) a method of agriculture or horticulture; (For e.g. the method of terrace farming cannot be patented.)
- (h) any process for the medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings or any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products; (For e.g. any new technique of hand surgery is not patentable)
- (i) plants and animals in whole or any part thereof other than micro-organisms but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals;
- (j) a mathematical or business method or a computer programme per se or algorithms;
- (k) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever including cinematographic works and television productions;
- (l) a mere scheme or rule or method of performing mental act or method of playing game;
- (m) a presentation of information;
- (n) topography of integrated circuits;
- (o) an invention which in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components.
- (p) Inventions relating to atomic energy and the inventions prejudicial to the interest of security of India.

Term and Date of Patent

Term of every patent will be 20 years from the date of filing of patent application, irrespective of whether it is filed with provisional or complete specification. Date of patent is the date on which the application for patent is filed. The term of patent in case of International applications filed under the Patent Cooperation Treaty designating India, will be 20 years from the International filing date accorded

under the Patent Cooperation Treaty. A patent will have cease to effect on the expiration of the period prescribed for the payment of any renewal fee, if that fee is not paid within the prescribed period.

Rights of the Patentee (Sec.48 of Patents Act, 1970)

Where a patent covers a product, the grant of patent gives the patentee the exclusive right to prevent others from performing, without authorization, the act of making, using, offering for sale, selling or importing that product for the above purpose.

Where a patent covers a process, the patentee has the exclusive right to exclude others from performing, without his authorization, the act of using that process, using and offering for sale, selling or importing for those purposes, the product obtained directly by that process in India.

Where a patent is granted to two or more persons, each of those persons will be entitled to an equal undivided share in the patent unless there is an agreement to the contrary.

Compulsory License

Compulsory Licensing (CL) allows governments to license third parties (that is, parties other than the patent holders) to produce and market a patented product or process without the consent of patent owners. Chapter XVI i.e. Sections 82 to 94 of the Patents act, 1970 deals with 'Working of Patents, Compulsory Licenses and Revocation'. Chapter XVII also deals with use of inventions for the purpose of government and acquisition of inventions by Central Government. Chapter XIII i.e. Rules 96 to 102 of Patents Rules, 2003 deals with 'compulsory license and revocation of patent'.

Sec.84 of Patents Act, 1970 deals with general Compulsory Licenses to be issued by the Controller on application. Any time after three years from date of sealing of a patent, application for compulsory license can be made, provided

- (a) reasonable requirements of public have not been satisfied;
- (b) patented invention is not available to public at a reasonably affordable price or
- (c) patented invention is not worked in India.

Applicant's capability including risk taking, ability of the applicant to work the invention in public interest, nature of invention, time elapsed since sealing,

measures taken by patentee to work the patent in India will be taken into account by the Controller of Patents before granting license. In case of national emergency or other circumstances of extreme urgency or public non commercial use or an establishment of a ground of anti competitive practices adopted by the patentee, the above conditions will not apply.

Section 92 of Patents Act, 1970 deals with special provision for compulsory licenses on notifications issued by Central Government. If the Central Government is satisfied in respect of any patent in force, in case of national emergency or extreme urgency or in case of public non-commercial use, then compulsory licenses can be granted at any time to work the invention and make a declaration in this regard in the Official Gazette.

Section 92A of Patents Act, 1970 provides for compulsory licensing of patents relating to the manufacture of pharmaceutical products for export to countries with public health problems. This section is an "enabling provision" for export of pharmaceutical products to any country having insufficient or no manufacturing capacity in the pharmaceutical sector in certain exceptional circumstances, to address public health problems. Such country has either to grant compulsory license for importation or issue a notification for importation into that country.

The general purpose for granting compulsory license is that –

- (a) that patented inventions are worked on a commercial scale in India without undue delay and to the fullest extent that is reasonably practicable;
- (b) that the interests of any person for the time being working or developing an invention in India under the protection of a patent are not unfairly prejudiced.

While settling the terms and conditions of compulsory licenses, the Controller should endeavor to secure –

- that the royalty and other remuneration, if any, reserved to the patentee or other person beneficially entitled to the patent, is reasonable, having regard to the nature of the invention, the expenditure incurred by the patentee in making the invention or in developing it and obtaining a patent and keeping it in force and other relevant factors;
- that the patented invention is worked to the fullest extent by the person to whom the license is granted and with reasonable profit to him;

- that the patented articles are made available to the public at reasonably affordable prices;
- that the license granted is a non-exclusive license;
- that the right of the licensee is non-assignable;
- that the license is for the balance term of the patent unless a shorter term is consistent with public interest;
- that the license is granted with a predominant purpose of supply in the Indian market and that the licensee may also export the patented product if required;
- that in the case of semi-conductor technology, the license granted is to work the invention for public non-commercial use;
- that in case the license is granted to remedy a practice determined after judicial or administrative process to be anti-competitive, the licensee shall be permitted to export the patented product, if need be.

8.3.3 Trademark Law in India

What is Trademark?

A trade mark (popularly known as brand name) in layman's language is a visual symbol which may be a word signature, name, device, label, numerals or combination of colours used by one undertaking on goods or services or other articles of commerce to distinguish it from other similar goods or services originating from a different undertaking.

- The selected mark should be capable of being represented graphically (that is in the paper form).
- It should be capable of distinguishing the goods or services of one undertaking from those of others.
- It should be used or proposed to be used mark in relation to goods or services for the purpose of indicating or so as to indicate a connection in the course of trade between the goods or services and some person have the right to use the mark with or without identity of that person.

Trade Marks are distinctive symbols, signs, logos that help consumer to distinguish between competing goods or services. A trade name is the name of an enterprise which individualizes the enterprise in consumer's mind. It is legally not linked to quality but, linked in consumer's mind to quality expectation.

Key Features of Trademark

- Trademark must be Distinctive
- Trademark must be used in Commerce

Types of Trademark

- Trademark,
- Service mark,
- Collective mark,
- Certification Mark

Functions of Trademark

Trademark performs four functions –

- It identifies the goods / or services and its origin;
- It guarantees its unchanged quality;
- It advertises the goods/services;
- It creates an image for the goods/ services.

Trade Marks law of India

The Trade Marks Act, 1999 and the Trade Marks Rules, 2002 govern the law relating to Trade Marks in India. The Trade Marks Act, 1999 (TMA) protects the trademarks and their infringement can be challenged by a passing off or/and infringement action. The Act protects a trade mark for goods or services, on the basis of either use or registration or on basis of both elements.

Who can apply for Trademark?

Any person claiming to be the proprietor of a trade mark used or proposed to be used by him may apply in writing in **Form TM-1** for registration. The application should contain the trade mark, the goods/services, name and address of applicant and agent (if any) with power of attorney, period of use of the mark and signature.

The application should be in English or Hindi. It should be filed at the appropriate office.

Registration of Collective Marks

Special provisions have been made for registration of collective marks in section 61 to 68 of the Act. “**Collective mark**” is defined to mean a trade mark distinguishing the goods or services of members of an association of persons (not being a partnership within the meaning of Indian Partnership Act, 1932) which is the proprietor of the mark from those of others”- section 2(1)(g). To be register able, the collective mark must be capable of being represented graphically and meet other requirements as are applicable to registration of trade marks in general. The following points should be noted for registering collective marks -

- The collective mark is owned by an association of persons not being a partnership.
- The collective marks belong to a group and its use thereof is reserved for members of the group.
- The association may not use itself the collective mark but it ensures compliance of certain quality standards by its members who may use the collective mark.
- The primary function of a collective mark is to indicate a trade connection with the association or organization who is the proprietor of the mark.

Application for registration as collective mark should be made on form TM-3. Where appropriate form TM-66 , 64 or TM-67 can be used.

8.3.4 Design Law in India

The essential purpose of design law is to promote and protect the design element of industrial production. It is also intended to promote innovative activity in the field of industries. The Designs Act, 2000 and the Designs Rules, 2001 presently govern the design law in India. The Act came into force on 25th May 2000 while the Rules came into effect on 11th May 2001. The object of the Designs Act is to protect new or original designs so created to be applied or applicable to particular article to be manufactured by Industrial Process or means. Sometimes purchase of articles for use is influenced not only by their practical efficiency but also by their appearance.

What is Design?

A Design refers to the features of shape, configuration, pattern, ornamentation or composition of lines or colours applied to any article, whether in two or three dimensional (or both) forms. This may be applied by any industrial process or means (manual, mechanical or chemical) separately or by a combined process, which in the finished article appeals to and judged solely by the eye. Design does not include any mode or principle of construction or anything which is mere mechanical device. It also does not include any trade mark or any artistic work. An industrial design registration protects the ornamental or aesthetic aspect of an article. Designs may consist of three-dimensional features, such as the shape or surface of an article, or of two dimensional features, such as patterns, lines or color. Designs are applied to a wide variety of products of different industries like handicrafts, medical instruments, watches, jewelry, house wares, electrical appliances, vehicles and architectural structures. An industrial design is primarily for aesthetic features.

Essential requirements for registration of Design

A design should –

- Be new or original
- Not be disclosed to the public anywhere by publication in tangible form or by use or in any other way prior to the filling date, or where applicable, the priority date of the application for registration.
- Be significantly distinguishable from known Designs or combination of known designs.
- Not comprise or contain scandalous or obscene matter.
- Not be a mere mechanical contrivance.
- Be applied to an article and should appeal to the eye.
- Not be contrary to public order or morality.

Exclusion from scope of Design

Designs that are primarily literary or artistic in character are not protected under the Designs Act. These will include:

- Books, jackets, calendars, certificates, forms-and other documents, dressmaking patterns, greeting cards, leaflets, maps and plan cards, postcards, stamps, medals.
- Labels, tokens, cards, cartoons.
- Any principle or mode of construction of an article.
- Mere mechanical contrivance.
- Buildings and structures.
- Parts of articles not manufactured and sold separately.
- Variations commonly used in the trade.
- Mere workshop alterations of components of an assembly.
- Mere change in size of article.
- Flags, emblems or signs of any country.
- Layout designs of integrated circuits.

Who can apply for registration?

Any person or the legal representative or the assignee can apply separately or jointly for the registration of a design. The term "person" includes firm, partnership and a body corporate. An application may also be filed through an agent in which case a power of attorney is required to be filed. An Application for registration of design may be prepared either by the applicant or with the professional help of attorneys.

Register of Design

The Register of Designs is a document maintained by the Patent Office, Kolkata as a statutory requirement. It contains the design number, date of filing and reciprocity date (if any), name and address of proprietor and such other matters as would affect the validity of proprietorship of the design such as notifications of assignments and of transmissions of registered designs, etc. and it is open for public inspection on payment of prescribed fee and extract from register may also be obtained on request with the prescribed fee.

Cancellation of registration of Design

The registration of a design may be cancelled at any time after the registration of design on a petition for cancellation in form 8 with a fee of Rs. 1,500/- to the Controller of Designs on the following grounds:

1. That the design has been previously registered in India or
2. That it has been published in India or elsewhere prior to date of registration or
3. The design is not new or original or
4. Design is not registrable or
5. It is not a design under Clause (d) of Section 2.

8.3.5 Laws relating to Geographical Indication of Goods

Geographical Indications of Goods (Registration and Protection) Act, 1999 and The Geographical Indications of Goods (Registration and Protection) Rules, 2002 deal with registration and better protection of geographical indications relating to goods. The primary purpose of this Act is to provide legal protection to Indian Geographical Indications which in turn boost exports. Registration of Geographical indication promotes economic prosperity of producers of goods produced in a geographical territory.

According to the Act, the term 'geographical indication' (in relation to goods) means "an indication which identifies such goods as agricultural goods, natural goods or manufactured goods as originating, or manufactured in the territory of a country, or a region or locality in that territory, where a given quality, reputation or other characteristic of such goods is essentially attributable to its geographical origin and in case where such goods are manufactured goods, one of the activities of either the production or of processing or preparation of the goods concerned takes place in such territory, region or locality, as the case may be".

What is a Geographical Indication?

Geographical Indications of Goods are defined as that aspect of industrial property which refers to the geographical indication referring to a country or to a place situated therein as being the country or place of origin of that product.

- ❖ It is an indication
- ❖ It originates from a definite geographical territory.
- ❖ It is used to identify agricultural, natural or manufactured goods

❖ The manufactured goods should be produced or processed or prepared in that territory.

❖ It should have a special quality or reputation or other characteristics

Examples of Indian Geographical Indications -

- Solapur Chaddar
- Solapur Terry Towel
- Basmati Rice
- Darjeeling Tea
- Kanchipuram Silk Saree
- Alphanso Mango
- Nagpur Orange

Registration of Geographical Indication

The registration of a geographical indication is not compulsory; however, it offers better legal protection to facilitate an action for infringement. The registered proprietor and authorized users can initiate infringement actions. The authorized users can exercise the exclusive right to use the geographical indication. The registration of a geographical indication is valid for a period of 10 years. It can be renewed from time to time for further period of 10 years each. If a registered geographical indication is not renewed it is liable to be removed from the register.

8.3.6 Law Relating to Semiconductor Integrated Circuits

Layout-Design

Semiconductor Integrated Circuit means a product having transistors and other circuitry elements, which are inseparably formed on a semiconductor material or an insulating material or inside the semiconductor material and designed to perform an electronic circuitry function. The layout-design of a semiconductor integrated circuit means a layout of transistors and other circuitry elements and includes lead wires connecting such elements and expressed in any manner in semiconductor integrated circuits. The layout of transistors on the semiconductor integrated circuit or topography of transistors on the integrated circuit determines the size of the integrated circuit as well as its processing power. That is why the layout design of transistors constitutes such an important and unique form of

intellectual property fundamentally different from other forms of intellectual property like copyrights, patents, trademarks and industrial designs.

Semiconductor Integrated Circuits Layout-Design (SICLD) Act, 2000

The Semiconductor Integrated Circuits Layout-Design Act, 2000 was passed to fulfill India's obligations as a TRIPS signatory. It provides protection for semiconductor Integrated Circuit layout designs. The main purpose of the Act is to provide for routes and mechanism for protection of IPR in Chip Layout Designs created and matters related to it. The important provisions of the Act are –

- Jurisdiction to the whole of India;
- SICLD Registry - where the layout-designs of integrated circuit chips can be registered;
- Defines layout-designs of integrated circuits which can be registered under the Act;
- Duration of registration of layout-designs;
- Rights conferred by registration;
- Infringement of layout-designs;
- Procedure for assignment and transmission of registered layout- design;
- Appellate Board as a forum of redressal;
- Treatment of Royalties;
- Provisions in case of national emergency or extreme public urgency;
- Penalties;
- Provision for agents;
- Reciprocity provision with other recognized countries.

Criteria for registration of Chip Layout Design

A Layout design that is:

- Original
- Not commercially exploited anywhere in India or convention /reciprocal country
- Inherently distinctive
- Inherently capable of being capable of being distinguishable from any other registered layout design

Duration of registration

A period of 10 years counted from the date of filing an application for registration or from the date of first commercial exploitation anywhere in India or in any convention country or country specified by Government of India whichever is earlier.

Person entitled to protection of Layout-Designs

Any person(s) who -

- a) Is a creator of a layout design and desires to register it;
- b) is an Indian national or national of country outside India which accords to citizens of India similar privileges as granted to its own citizens in respect of registration and protection of layout-designs and;
- c) has principal place of business in India or if he does not carry out business in India, has place of service in India.

Steps for registration of a layout-design

- 1) Filing of application by the creator of the layout-design at the SICLD Registry.
- 2) The Registrar may accept, refuse the application or accept with some modifications.
- 3) The accepted applications shall be advertised within 14 days of acceptance.
- 4) Any opposition to the advertisement can be filed within 3 months from the date of advertisement.
- 5) The counter-statement to the notice of opposition, if any, to be filed within 2 months from the date of receipt of copy of notice of opposition from the Registrar.
- 6) A copy of the counter statement provided to the opposing party.
- 7) The Registrar may take hearing with the parties.
- 8) The Registrar will decide on the originality of the layout-design and grant or reject the application for registration based on the conclusions reached by him.
- 9) Aggrieved party can appeal to Appellate Board or in its absence Civil Court for relief on any ruling of the Registrar.

8.3.7 Law Relating to Biological Diversity

India has been a party to the Convention on Biological Diversity since 5th June 1992 and ratified the Convention on 18th February 1994. The Convention on

Biological Diversity is one of the most broadly subscribed international environmental treaties in the world. Opened for signature at the Earth Summit in Rio de Janeiro Brazil in 1992, it currently has 189 Parties - 188 States and the European Community - who have committed themselves to its three main goals: the conservation of biodiversity, sustainable use of its components and the equitable sharing of the benefits arising out of the utilization of genetic resources. The Secretariat of the Convention is located in Montreal, Canada. India is also a signatory to Cartagena Protocol on Bio-safety signed on 23rd January 2001 and ratified on 11th September 2003.

Biodiversity Act, 2002

India enacted The Biological Diversity Act, 2002 and The Biological Diversity Rules, 2004 to fulfill its commitments in the Convention on Biological Diversity and in the Cartagena Protocol on Biosafety.

Various states have also enacted state specific Biological diversity rules namely – Kerala Biological Diversity Rules, 2005; Sikkim State Biological Diversity Rules, 2006; Nagalánd Biological Diversity Rules, 2010; Rajasthan Biological Diversity Rules, 2010; A.P. State Biological Diversity Rules, 2009, West Bengal Biological Diversity Rules, 2005; U.P. State Biodiversity Rules, 2010; Maharashtra Biological Diversity Rules, 2008 etc.

The Biodiversity Act - 2002 primarily addresses access to genetic resources and associated knowledge by foreign individuals, institutions or companies, to ensure equitable sharing of benefits arising out of the use of these resources and knowledge to the country and the people.

The Act has specific provisions about ownership of intellectual property rights associated with exploitation of biodiversity. Industries have to obtain prior consent of the National Biodiversity Authority before exploring the biodiversity in India. In the event of R&D based on exploitation of biodiversity and associated local knowledge, there is a provision for sharing of benefits of such work with the local community. No direct flow of funds is expected to the community. Instead the Union Government will reach the benefits through State Governments to the community.

The Biological diversity Act of 2002 contains 65 sections under 12 chapters while the Biological Diversity Rules of 2004 consists of 24 rules and one schedule. According to Section 2(b) of the Biological Diversity Act, 2002 "Biological

Diversity means the variability among living organisms from all sources and the ecological complexes of which they are part and includes diversity within species or between species and of eco-systems”.

Access to Biological Diversity

Chapter II of the Biological Diversity Act, 2000 lays down certain regulations with reference to access to Biological Diversity. The following regulations have been placed in Section 3 to 7 of the said act. Section 3 of the above referred act, requires the following categories of persons to seek previous permission of the National Biodiversity Authority, to obtain any biological resource occurring in India or knowledge associated thereto for research or commercial utilization or for bio-survey and bio-utilization –

- ❖ A person who is not a citizen of India.
- ❖ A citizen of India who is a non-resident as per section 2(30) of the Income-tax Act, 1961.
- ❖ A body corporate, association, organization –
 - Not incorporated or registered in India; or
 - Incorporated or registered in India under any law for the time being in force which has any non-Indian participation in its share capital or management.

Rule 14 of the Biological Diversity Rules, 2004 mentions the procedure for access to biological resources and associated traditional knowledge.

Section 4 of the above referred act requires that every person shall seek the previous approval of the national bio-diversity authority before transferring the results of any research related to any biological resources occurring in, or obtained from India to any person as referred to in section 3 above. **Rule 17** of the Biological Diversity Rules, 2004 mentions the procedure for seeking approval for transferring results of research.

Section 5 of the Biological Diversity Act, 2002 provides that section 3 and 4 above shall not apply to collaborative research projects involving transfer of biological resources, between institutions including governments sponsored institutions of India and such institutions in other countries if –

- ❖ If they conform to policy guidelines issued by central government in this behalf;
- ❖ Be approved by the central government

Section 6 of the Biological Diversity Act, 2002 (18 of 2003) requires that every person applying for any intellectual property rights in or outside India for any invention based on any research or information on a biological resource obtained from India before obtaining prior approval of the national biodiversity authority. The provisions of this section are however not applicable on rights relating to protection of plant varieties. **Rule 18** of the Biological Diversity Rules, 2004 mentions the procedure for seeking prior approval before applying for intellectual property protection.

Section 7 of the said Act requires every Indian citizen or a body corporate, association or organization registered in India to prior intimate the state biodiversity board of the concerned area from which he/it plans to obtain any biological resource for commercial utilization or bio survey and bio utilization for commercial purpose. The Act empowers state biodiversity board, vide section 24 to prohibit or restrict any such activity if it is of opinion that such activity is detrimental or contrary to the objectives of conservation and sustainable use of biodiversity.

8.3.8 Law Relating to Protection of Plant Varieties and Farmers Rights

A plant variety represents a more precisely defined group of plants, selected from within a species, with a common set of characteristics. The **Protection of Plant Varieties and Farmers' Right Act, 2001** has been enacted to provide for the establishment of an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants. The objectives of the Act are:

- to establish an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants;
- to recognize and protect the rights of the farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties;

- to protect plant breeders' rights to stimulate investment for research and development both in the public and private sector for development of new plant varieties;

- to facilitate the growth of seed industry in the country that will ensure the availability of high quality seeds and planting material to the farmers.

According to the Act, the term 'variety' means "a plant grouping except micro organism within a single botanical taxon of the lowest known rank, which can be:-

(i) defined by the expression of the characteristics resulting from a given genotype of that plant grouping;

(ii) distinguished from any other plant grouping by expression of at least one of the said characteristics; and

(iii) considered as a unit with regard to its suitability for being propagated, which remains unchanged after such propagation; and includes propagating material of such variety, extant variety, transgenic variety, farmers' variety and essentially derived variety".

Duration of protection of a registered plant variety

The duration of protection of registered varieties is different for different crops which are as below:

1. For trees and vines - 18 years.
2. For other crops - 15 years.
3. For extant varieties - 15 years from the date of notification of that variety by the Central Government under section 5 of the Seeds Act, 1966.

Registration of Plants

Registration of a plant variety gives protection only in India and confers upon the rights holder, its successor, agent, or licensee the exclusive right to produce, sell, market, distribute, import, or export the variety.

8.3.9 Law Relating to Undisclosed Information

Knowhow is another important form of intellectual property generated by R&D institutions that do not have the benefit of patent or copyright protection. Such know-how is kept undisclosed as trade secrets. A Trade Secret or undisclosed information is any information that has been intentionally treated as secret and is capable of commercial application with an economic interest. It protects

information that confers a competitive advantage to those who possess such information, provided such information is not readily available with or discernible by the competitors. They include technical data, internal processes, methodologies, survey methods, a new invention for which a patent application has not yet been filed, list of customers, process of manufacture, techniques, formulae, drawings, training material, source code, etc. It therefore becomes imperative to strengthen the confidentiality around the trade secret by ensuring that contractual obligations are enforced on persons who are allowed to use the trade secret, especially, when it is licensed to a third party.

Since there is no documentary evidence such as a Letters Patent or a Copyright registration or a Trademark Registration to prove that the trade secret was originally created by the proprietor, it is essential to maintain proof of creation of trade secret either by mailing the information to oneself and retaining postmarked and sealed envelope or by depositing a copy of the information with a third party that would maintain a dated copy.

Trade secret remains confidential for indefinite period of time as per the will of the proprietor provided the security and its confidentiality is not breached. There is no specific legislation regulating the protection of trade secrets in India. India follows common law approach of protection and all matters relating to it are generally covered under the Contract Act, 1872. So, if the information constituting trade secret is leaked, legal action can be brought against the parties who have leaked it under the Law of Contracts. However, in such a case the protection of trade secret will be lost and it becomes available in public domain.

8.4 Initiatives of Government of India towards Protection of IPR

1. The Government has brought out A Handbook of Copyright Law to create awareness of copyright laws amongst the stakeholders, enforcement agencies, professional users like the scientific and academic communities and members of the public.
2. National Police Academy, Hyderabad and National Academy of Customs, Excise and Narcotics conducted several training programs on copyright laws for the police and customs officers.

3. The Department of Education, Ministry of Human Resource Development, Government of India has initiated several measures in the past for strengthening the enforcement of copyrights that include constitution of a Copyright Enforcement Advisory Council (CEAC), creation of separate cells in state police headquarters, encouraging setting up of collective administration societies and organization of seminars and workshops to create greater awareness of copyright laws among the enforcement personnel and the general public.

4. Special cells for copyright enforcement have so far been set up in 23 States and Union Territories, i.e. Andhra Pradesh, Assam, Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Orissa, Pondicherry, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal.

5. The Government also initiates a number of seminars/workshops on copyright issues. The participants in these seminars include enforcement personnel as well as representatives of industry organizations.

8.5 Summary

Intellectual property has become an important aspect of the nation's development and thus every country is giving protection to it. Likewise, India has also provided legal recognition to IPRs and enacted various laws like, The Copyright Act, 1957, The Patents Act, 1970, The Trade Marks Act, 1999, The Geographical Indications of Goods (Registration and Protection) Act, 1999, The Designs Act, 2000, The Semiconductors Integrated Circuits Layout-Design Act, 2000, The Protection of Plant varieties and Farmers' Rights Act, 2001, The Biological Diversity Act, 2002, Intellectual Property Rights (Imported Goods) Rules, 2007, etc. These Acts not only define the rights of intellectual property holder but also give the procedure by which they could be acquired.

The laws of intellectual property rights in India have gradually developed in a span of more than 150 years. The law relating to intellectual property was firstly introduced by the Britishers in India. After independence several amendments were done and many new laws were introduced to fulfill the needs arising. After TRIPS the laws were amended to be in accord with the TRIPS agreement. Now the Indian laws are mostly in accordance to the TRIPS agreement.

8.6 Self Assessment Test

1. Give a brief account of legal history intellectual property laws in India?
2. Describe the laws protecting patents and copyrights in India.
3. Define the terms “Design” and “Geographical Indication of Goods”? Give main provisions of the law prevailing in India.
4. Discuss the main provisions of the law protecting Trademark and Biological Diversity India.
5. What are the steps/initiatives of the Government of India towards Protection of IPR? Briefly discuss the law relating to Protection of Plant Varieties and Farmers Rights.

8.7 Further Readings

1. Bare Acts of the Copyright Act, 1957, The Patents Act, 1970, The Trade Marks Act, 1999, The Geographical Indications of Goods (Registration and Protection) Act, 1999, The Designs Act, 2000, The Semiconductors Integrated Circuits Layout-Design Act, 2000 etc..
2. Rajiv Malhotra and Jay Patel, —History of Indian Science & Technology
3. Anon., World Intellectual Property Organization, *Introduction to Intellectual Property: Theory and Practice*

Unit 9

IPR and Global Legal Regime

Objectives:

After going through this unit, you should be able to understand the various aspects of protection provided to intellectual property rights in the global legal regime and main provisions of various treaties on which laws of the country are based.

Structure:

- 9.1 Introduction
 - 9.2 The History of Intellectual Property
 - 9.2.1 *The Territorial Period*
 - 9.2.2 *The International Period*
 - 9.2.3 *The Global Period*
 - 9.3 The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)
 - 9.4 Flexibilities Provided by TRIPS
 - 9.5 IPR Treaties
 - 9.5.1 *TRIPS*
 - 9.5.2 *Trademark Law Treaty*
 - 9.5.3 *Patent Law Treaty*
 - 9.5.4 *Patent Cooperation Treaty System*
 - 9.5.5 *Madrid System for the International Registration of Marks*
 - 9.5.6 *The Hague System for the International Deposit of Industrial Designs*
 - 9.5.7 *Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purpose of Patent Procedure*
 - 9.5.8 *International Convention for the Protection of New Varieties of Plants*
 - 9.6 Summary
 - 9.7 Self Assessment Test
 - 9.8 Further Readings
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9.1 Introduction

The global architecture of the IPRs regime has become increasingly complex, and includes a diversity of multilateral agreements, international organizations, regional conventions and instruments, and bilateral arrangements. In brief, the international law on intellectual property, in its present form, consists of three types of agreement: multilateral treaties, regional treaties or instruments, and bilateral treaties. Most of these agreements are administered by WIPO, and are of three types:

1. **Standard-setting treaties**, which define agreed basic standards of protection for the different IPRs, and also typically require national treatment. These include the 1883 Paris Convention for the Protection of Industrial Property, the 1886 Berne Convention for the Protection of Literary and Artistic Works, the 1961 Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, the 1996 WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty. Important non-WIPO treaties of this kind include UNESCO's 1952 Universal Copyright Convention, the 1961 International Convention for the Protection of New Varieties of Plants (the UPOV Convention), and the WTO-administered TRIPS Agreement.

2. **Global protection system treaties**, which facilitate filing or registering of IPRs in more than one country. These include the 1970 Patent Cooperation Treaty, the 1891 Madrid Agreement Concerning the International Registration of Marks, and the 1958 Lisbon Agreement for the Protection of Appellations of Origin and their International Registration.

3. **Classification treaties**, which "organize information concerning inventions, trademarks and industrial designs into indexed, manageable structures for easy retrieval". These include the 1957 Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks, the 1968 Locarno Agreement Establishing an International Classification for Industrial Designs, and the 1971 Strasbourg Agreement Concerning the International Patent Classification.

Of these, the agreements that affect the greatest number of countries are the TRIPS Agreement and some of the multilateral treaties administered by WIPO. One of WIPO's main objectives is "to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organization". *Regional* agreements (or

for that matter bilateral agreements) are also extremely important. First, their membership may be quite large, covering 20 or more countries. Second, it is possible that novel provisions in such agreements could subsequently be globalised through their incorporation into new multilateral agreements. Third, developing countries may be required to introduce provisions that go beyond what the TRIPS Agreement requires, such as extending patents to new kinds of subject matter and eliminating certain exceptions. Fourth, the most-favoured-nation (MFN) treatment obligation (see below) obligates, in general, WTO Members to extend such "TRIPS-plus" provisions in regional agreements to all other WTO Members. Thus, regional standards might have a direct impact on the global IPRs architecture. Fifth, regional agreements might stipulate that contracting Parties should accede to certain international conventions. The above points might also apply to bilateral agreements.

9.2 The History of Intellectual Property

9.2.1 The Territorial Period

The Venetians are credited with the first properly developed patent law in 1474. In England the Statute of Monopolies of 1623 swept away all monopolies except those made by the "true and first inventor" of a "method of manufacture". Revolutionary France recognized the rights of inventors in 1791 and, outside of Europe, the U.S.A. enacted a patent law in 1790. These patent laws were nothing like today's complex systems. They were mercifully short, simply recognizing the rights of the inventor. After these beginnings, patent law spread throughout Europe in the first half of the nineteenth century. Statutory forms of trademark law only make their appearance late in the second half of the nineteenth century, even though trademarks had been in use for much longer. The English courts developed protection for trademarks through the action of passing off. For a variety of reasons, this proved unsatisfactory and statutory systems of trademark registration began to make their appearance in Europe: England 1862 and 1875, France 1857, Germany 1874 and the U.S.A. 1870 and 1876. Copyright follows a similar kind of pattern, modern copyright law beginning in England with the Statute of Anne of 1709.

The territorial period is dominated by the principle of territoriality, the principle that intellectual property rights do not extend beyond the territory of the sovereign which has granted the rights in the first place. The principle is the product of the intimate connections to be found between sovereignty, property rights and territory. It was a principle which courts recognized in the interests of international comity. A world in which states regularly claimed jurisdiction over the property rights established by other nations would be a world in which the principle of negative comity would have largely vanished. The principle of territoriality meant that an intellectual property law passed by country A did not apply in country B. Intellectual property owners faced a classic free-riding problem, or putting it in another way, some countries were the beneficiaries of positive externalities.

9.2.2 The International Period

During the nineteenth century states began to take a greater and greater interest in the possibility of international co-operation on intellectual property. At first this interest manifested itself in the form of bilateral agreements. In copyright, a French decree of 1852 granting copyright protection to foreign works and foreign authors without the requirement of reciprocity did much to keep bilateral treaty-making in copyright alive. Those states that were worried about the free-riding problem began to negotiate bilateral treaties with other states. Those states that saw themselves as recipients of a positive externality remained isolationist. The United Kingdom (the U.K.) and the U.S.A. provide an example of each response. The U.K. found in the eighteenth century that many of its authors were having their works reproduced abroad without permission and without receiving royalties. Much of the "piracy" was taking place in America, where authors like Dickens were very popular with the American public and therefore American publishers.

The Americans were not the only culprits as the following passage from *Hansard* (1837) makes clear:

"Every work written by a popular author is almost co-instantaneously reprinted in large numbers both in France, Germany and in America and this is done now with much rapidity, and at little expense . . . All the works of Sir Walter Scott, Lord Byron, Messrs. Robert Southey, Thomas Moore . . . and indeed most popular authors are so reprinted and resold by galignani and bardens at Paris."

The UK response to this problem was to pass in 1838 and 1844 Acts that protected works first published outside of the UK. These Acts grounded a strategy of reciprocity. Foreign works would only gain protection in the UK if the relevant state agreed to protect UK works. The 1844 Act saw a considerable number of bilateral agreements concluded between the UK and other European states. The U.S.A. Copyright Act of 1790 only granted copyright protection to citizens and residents of the U.S.A. This form of national protectionism prevailed in US copyright policy for a surprisingly long period. For over a hundred years, this nation not only denied copyright protection to published works by foreigners, applying the 'nationality-of-the-author' principle, but appeared to encourage the piracy of such works.

Like copyright, the different parts of industrial property also became the subject of bilateral treaty making, mainly between European states. By 1883 there were 69 international agreements in place, most of them dealing with trademarks. In this way states could secure protection for the works of their authors in foreign jurisdictions.

Bilateralism in intellectual property in the nineteenth century was important in that it contributed to the recognition that an international framework for the regulation of intellectual property had to be devised, and it suggested content in terms of principles for that framework. The main movement towards serious international co-operation on intellectual property arrived in the form of two multilateral pillars: the Paris Convention of 1883 and the Berne Convention of 1886. The Paris Convention formed a Union for the protection of industrial property and the Berne Convention formed a Union for the protection of literary and artistic works.

The Paris and Berne Conventions ushered in the multilateral era of international co-operation in intellectual property. The twentieth century saw the proliferation of international intellectual property regimes. Examples of areas that became the subject of international agreements include trademarks (Madrid Agreement (Marks), 1891 and Madrid Agreement (Indication of Source), 1891), designs (Hague Agreement, 1925), performance (Rome Convention, 1961), plant varieties (International Convention for the Protection of New Varieties of Plants, Acts of 1961 and 1991), patents (Patent Co-operation Treaty, 1970), semiconductor chips (Treaty on Intellectual Property in Respect of Integrated Circuits, 1989). The Paris and Berne Conventions also underwent numerous revisions.

Treaty-making in intellectual property was accompanied by the rise of international organizational forms. The Paris and Berne Conventions saw the creation of international bureaus which were merged in 1893 to form the United International Bureaux for the Protection of Intellectual Property (BIRPI). BIRPI was superseded by a new organization, WIPO, which was established by treaty in 1967. WIPO became a specialized agency of the United Nations in 1974.

Despite the fact that WIPO in 1992 administered 24 multilateral treaties, it presided over an intellectual property world of enormous rule diversity. By 1992 the organization also sensed, perhaps more strongly than anyone, the sea change that was about to take place in the regulation of intellectual property. The General Agreement on Tariffs and Trade (the GATT), across the road from WIPO in Geneva, was about to see to that. WIPO stood by as trade lawyers forced the world of intellectual property into the global era.

9.2.3 The Global Period

After the Second World War more and more developing countries joined the Paris and Berne Conventions. These conventions ceased to be Western clubs and under the principle of one-vote-one-state, Western states could be outvoted by a coalition of developing countries. But the developing countries wanted an international system that catered to their stage of economic development and so, in the eyes of the West at least, they began to throw their weight around. In copyright, led by India, developing countries succeeded in obtaining the adoption of the Stockholm Protocol of 1967. The aim of the Protocol was to give developing countries greater access to copyright materials. The Paris Convention also became the subject of Diplomatic Conferences of Revision in 1980, 1981, 1982 and 1984 with developing countries pushing for more liberal provisions on compulsory licensing. During the 1960s, India had experienced some of the highest drug prices in the world. Its response was to design its patent law to help to bring about lower drug prices. Under Indian law, patents were granted for processes relating to the production of pharmaceuticals, but not for chemical compounds themselves. When it came to reforming the Paris Convention, countries like India pushed for provisions that would give developing countries more and more access to technology that had been locked up by means of patents. For India this was rational

social policy for the educational and health care needs of its citizens. For the U.S.A., it was a case of free-riding.

On 15 April 1994, the Uruguay Round concluded in Marrakech with the signing of the Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations. More than 100 countries signed the Final Act. It contained a number of agreements including the Agreement Establishing the World Trade Organization and the TRIPS Agreement. The TRIPS Agreement was made binding on all members of the World Trade Organization (WTO). There was no way for a state that wished to become or remain a member of the multilateral trading regime to side-step the TRIPS Agreement.

Post-TRIPS

The TRIPS Agreement is built on the edifice of the principles of territoriality and national treatment. But it also represents the beginnings of property globalization. Via the trade linkage, the TRIPS Agreement reaches all those states that are members of the multilateral trading system or which, like China, wish to become members. The regional commercial unions that have developed in the last few years have as one of their key objectives the implementation of the TRIPS Agreement. More generally, intellectual property has come to feature strongly in regional arrangements of the 1990s, particularly trade arrangements. The North American Free Trade Agreement (NAFTA) contains extensive provisions on intellectual property. Those provisions in fact served as something of a model for what might be achieved in respect of intellectual property at the multilateral level during the Uruguay Round of negotiations. In a recent survey of the role of intellectual property in regional commercial unions, Blakeley has identified different forms of co-operation and convergence on intellectual property law taking place amongst the states of the Central European Free Trade Agreement, the Association of South East Asian Nations, the Mekong River Basin Countries and the Asia Pacific Economic Co-operation Forum.

In the past states have been able to steer their way through the international intellectual property framework by taking reservations on clauses in treaties or by not ratifying certain protocols or conventions. All of the TRIPS Agreement is binding on all members of the WTO. The TRIPS Agreement incorporates various other intellectual property conventions by reference. States, therefore, have to implement a common and enlarged set of intellectual property standards, standards

that become common to more states by virtue of their participation in regional and multilateral trade regimes. More and more standards are becoming mandatory rather than permissive for states. States, for example, have less discretion to determine what can be patentable and what cannot.

The post-TRIPS era has been a period in which countries have had to engage in the task of national implementation of their obligations under the TRIPS Agreement. Least-developed countries have the advantage of a ten year transitional period under the agreement, but they have been under pressure from developed countries to move sooner rather than later on its implementation. The TRIPS Agreement operates under an institutional arrangement designed to promote compliance. The WTO Agreement establishes a Council for TRIPS, which is required to monitor members' compliance with their obligations under the agreement. The practice which seems to be developing is that states like the U.S.A. and Europe are asking other states to explain their intellectual property laws and whether they comply with the TRIPS Agreement. The monitoring by the Council for TRIPS, the active interest of the U.S.A. and Europe in the enforcement of intellectual property obligations, and the fact that disputes under the TRIPS Agreement can be made the subject of proceedings under the dispute resolution mechanism of the Final Act, mean that obligations of the TRIPS Agreement will over time become a living legal reality for states rather than suffering the fate of so many conventions, that of remaining paper rules.

The post-TRIPS period has also seen multilateral treaty-making in intellectual property continue. On December 20, 1996, under the auspices of WIPO, the WIPO Performances and Phonograms Treaty and the WIPO Copyright Treaty were concluded. The U.S.A. was one of the main agitators for a new international instrument to deal with the entry of copyright into the digital age. As part of its National Information Infrastructure Initiative in 1993, the U.S.A. had established a working group on intellectual property rights. This working group recommended in a report in 1995 that the distribution right of copyright owners be clarified to include transmission, and that the law prohibits the circumvention of copyright protection systems. The U.S.A. sought to globalize this copyright owner's agenda by pushing for the inclusion of some new form of communication right in an international instrument. The negotiating history of these two treaties is significant in that copyright owners met with organized resistance from copyright users. The

U.S.A. consumer movement, for instance, was particularly active in successful opposition to the proposed database treaty. Copyright owners had both wins and losses at these negotiations. The Copyright Treaty grants copyright owners a right of communication to the public, but recognizes the right of states to determine the extent of the copyright owner's right of distribution.

All this suggests that future multilateral treaty-making in intellectual property will be a complex game fought out between user and owner groups, groups whose membership transcends national boundaries. Library groups, educational institutions, internet service providers and developers of software applications are likely to unite to oppose large software companies and publishers on matters of copyright reform. Indigenous peoples non-governmental organizations (NGO's), and environmental NGO's are likely to unite to fight the extension of the patent system to higher order life forms. Intellectual property policy has become a highly politicized arena in which state and non-state actors will continue to contest not just the rules of intellectual property, but also the roles of markets and government. Triumphs of the scale of the TRIPS Agreement may in the future be much harder to secure.

The TRIPS Agreement is but one part of a much deeper phenomenon in which intellectual property is playing a crucial role the regulatory globalization of the norms of contract and property. Property law constitutes the objects of property; contract enables the exchange of those objects. Through contract the objects of property become tradable capital. Together these norms constitute markets.

An illustration of this phenomenon is the link between intellectual property and investment. The international regulation of investment for most of its history has occurred bilaterally. States over the years have created a web of bilateral investment treaties. Intellectual property, like any other asset, can be made the subject of a treaty. One aspiration in the Uruguay Trade Round, held mainly by international business, was that the Round would deliver a comprehensive multilateral agreement on investment that would free business from the restrictions on investment that were to be found in bilateral treaties. The ink eventually dried on a far more modest investment agreement the Agreement On Trade-Related Investment Measures (the TRIMS Agreement). This agreement applies only to trade in goods. Since the TRIMS Agreement, negotiations at the Organization for Economic Cooperation and Development (the OECD) have seen the emergence of

a draft text for a Multilateral Agreement on Investment (the MAI). The MAI negotiating text has gone through a number of changes, but all versions have defined investment to include every kind of asset including intellectual property rights.

Intellectual property norms are also becoming a part of the emerging *lex cybertoria* the trade norms of cyberspace. The International Chamber of Commerce (the ICC) in a recent discussion paper stated that "in cyberspace, all assets are intangible and can be classified as intellectual property." More generally, governments and business non-governmental organizations (NGO's) have agreed that the intellectual property issues raised by electronic commerce have to be clearly settled. So far norm-setting on the intellectual property issues has proceeded largely by way of model laws that have been generated by international organizations of states (for example, the UNCITRAL Model Law on Electronic Commerce), national law reform bodies (for example, the work of National Conference of Commissioners on Uniform State Laws on Article 2B (dealing with the licensing of intellectual property rights)) or business NGO's (for example, the ICC).

9.3 The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is an international agreement administered by the World Trade Organization (WTO) that sets down minimum standards for many forms of intellectual property (IP) regulation as applied to nationals of other WTO Members. It was negotiated at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1994. The TRIPS agreement introduced intellectual property law into the international trading system for the first time and remains the most comprehensive international agreement on intellectual property to date.

The following Intellectual Property Rights are covered under the TRIPS:

- 1) copyright;
- 2) geographical indications;
- 3) industrial designs;
- 4) integrated circuit layout-designs;
- 5) patents;

- 6) new plant varieties;
- 7) trademarks;
- 8) undisclosed or confidential information.

TRIPS also specifies enforcement procedures, remedies, and dispute resolution procedures. Protection and enforcement of all intellectual property rights should meet the objectives to contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

Copyrights and related rights

Part II Section 1 (Article 9 to Article 14) of the TRIPS agreement deals with the minimum standard in respect of copyrights.

Trademarks

Part II Section 2 (Article 15 to Article 21) of the TRIPS agreement contains the provisions for minimum standards in respect of Trademarks.

Geographical Indications

Section 3 Part II (Article 22 to Article 24) of the TRIPS Agreement contains the provisions for minimum standards in respect of geographical indications.

Industrial Designs

Section 4, Part II (Article 25 and Article 26) of the TRIPS Agreement contains the provisions for minimum standards in respect of Industrial designs.

Patents

Section 5 Part II of the TRIPS Agreement (Article 27 to Article 34) contains the provisions for standards in respect of Patents.

Layout Designs of Integrated Circuits

Articles 35 to 38 of Section 6 / Part II of the TRIPS agreement contain the provisions for protection of rights in respect of Layout Designs of Integrated Circuits.

Protection of undisclosed information

Article 39 of Section 7 Part II of the TRIPS agreement elaborates on the protections of trade secrets. A Trade Secret or undisclosed information is any information that has been intentionally treated as secret and is capable of commercial application with an economic interest. There is no specific legislation

regulating the protection of trade secrets. India follows common law approach of protection based on contract laws.

9.4 Flexibilities Provided by TRIPS

Although the TRIPS Agreement lays the foundation toward higher standards of protection for intellectual property rights on a global scale, it leaves its signatories with important flexibilities in designing national IPRs regimes. It is important for governments to carefully consider alternative ways of implementing provisions in the TRIPS Agreement that only set a broad standard of protection and choose the options that are most suited to domestic needs.

For example, the criteria used for determining the novelty, non-obviousness, and usefulness of patentable inventions can be defined differently across countries. Thus, a WTO member may deny patent protection for, say, business methods that are frequently claimed to involve only a minor inventive step. TRIPS also do not require countries to extend patent protection to computer software as well as plants or animals.

Countries are free to override the exclusive rights of patents by granting so-called compulsory licenses (government authorizations to use a patent without the patent holder's consent). TRIPS only require that compulsory licenses be considered on their individual merits and that compensation be paid to rights holders. In the area of copyright, TRIPS allows for important leeway in defining fair use exemptions to strike a balance between the interests of copyright producers and the interests of the general public.

TRIPS does not address the question of so-called parallel trade. In some jurisdictions, IPRs holders have the right to block the importation of products that they have placed for sale in a foreign market. In other jurisdictions, IPRs holders do not have such a right and parallel imports can be an important means of creating price competition for products such as books, CDs, or pharmaceuticals. Under TRIPS, countries are free to allow or disallow parallel importation.

Additional flexibilities exist in many other areas of TRIPS. The bilateral FTAs or WTO-plus commitments in accession agreements may reduce these flexibilities. It is important for governments to carefully assess whether the benefits of "TRIPS-plus" standards outweigh their costs and defend their interests in the course of trade negotiations.

9.5 International IPR Treaties

Strong protection for intellectual property rights (IPR) worldwide is vital to the future economic growth and development of all countries. Because they create common rules and regulations, international IPR treaties, in turn, are essential to achieving the robust intellectual property protection that spurs global economic expansion and the growth of new technologies.

The international community, however, did not have a single source for intellectual property obligations and norms until the 1994 Uruguay Round of the General Agreement on Tariffs and Trade created the World Trade Organization (WTO) and included the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The significance of the TRIPS Agreement is three-fold:

- 1) It is the first single, truly international agreement that establishes minimum standards of protection for several forms of intellectual property;
- 2) It is the first international intellectual property agreement that mandates detailed civil, criminal, and border enforcement provisions; and
- 3) It is the first international intellectual property agreement that is subject to binding, enforceable dispute settlement. TRIPS, in effect, lay the groundwork for a strong and modern IPR infrastructure for the world community.

9.5.1 TRIPS

The TRIPS Agreement came into force in 1995, as part of the Agreement Establishing the World Trade Organization. TRIPS incorporates and builds upon the latest versions of the primary intellectual property agreements administered by the World Intellectual Property Organization (WIPO), the Paris Convention for the Protection of Industrial Property, and the Berne Convention for the Protection of Literary and Artistic Works, agreements that go back to the 1880s. TRIPS is unique among these IPR accords because membership in the WTO is a “package deal,” meaning that WTO members are not free to pick and choose among agreements. They are subject to all the WTO’s multilateral agreements, including TRIPS.

TRIPS applies basic international trade principles to member states regarding intellectual property, including national treatment and most-favored-nation treatment. TRIPS establishes minimum standards for the availability, scope, and

use of seven forms of intellectual property: copyrights, trademarks, geographical indications, industrial designs, patents, layout designs for integrated circuits, and undisclosed information (trade secrets). It spells out permissible limitations and exceptions in order to balance the interests of intellectual property with interests in other areas, such as public health and economic development.

According to TRIPS, developed countries were to have implemented the agreement fully by January 1, 1996. Developing-country members and members in transition to a market economy were entitled to delay full implementation of TRIPS obligations until January 1, 2000. Least-developed members were given until January 1, 2006, to implement their obligations, with the possibility of further transition upon request. Developing countries that did not provide patent protection for particular areas of technology on their date of application were given an additional five years, until January 1, 2005, to provide such protection.

At the 2001 WTO Ministerial Conference in Doha, least-developed countries were given an additional 10 years to implement TRIPS patent and "undisclosed information" provisions as they relate to pharmaceuticals. Because the TRIPS Agreement is a decade old, however, it does not address several new developments, such as the Internet and digital copyright issues, advanced biotechnology, and international harmonization, the process of creating uniform global standards of laws or practice. It sets the floor for minimum IPR protection, not the ceiling.

Since the conclusion of the TRIPS Agreement, the World Intellectual Property Organization has addressed digital copyright issues in the so-called Internet Treaties, namely the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT). What follows are summaries of other WIPO treaties that complement the TRIPS Agreement, particularly in addressing new technological developments.

9.5.2 Trademark Law Treaty

The Trademark Law Treaty (TLT), adopted on October 27, 1994, entered into force on August 1, 1996. Thirty-three states are party to the TLT as of July 1, 2005. The TLT was enacted to simplify procedures in the application and registration process and to harmonize trademark procedures in different countries.

The TLT harmonizes procedures of national trademark offices by establishing the maximum requirements a contracting party can impose.

The TLT gives service marks, the distinctive identifiers of businesses that offer a service, as opposed to goods "equal" status with trademarks. Previously, many foreign countries treated trademarks and service marks differently. The TLT requires member nations to register service marks and treat them as they would trademarks. From the trademark owner's perspective, the TLT saves time and money in the preparation and filing of documents for the application. It streamlines the process for post-registration renewals; recording assignments, changes of name and address, and powers of attorney. Member countries to the TLT are now required to permit the use of multi-class applications, enabling trademark owners to file a single application covering multiple classes of goods and services. Another significant feature of the TLT that benefits trademark owners is its prohibition of requirements by national offices for authentication or certification of documents as well as signatures on trademark applications and correspondence.

Many countries had required that any signatures submitted in support of registration of a mark be notarized or otherwise legalized in accordance with the laws of that nation. Under the TLT, it is no longer necessary in most instances to go through these procedures. This feature enables trademark owners to complete and file trademark documents more quickly, at less cost. An additional advantage of the TLT is the harmonization of the initial and renewal terms of trademark registration among signatory countries. The TLT provides for an initial 10-year term, with 10-year renewals. Other key features of the TLT include the introduction of intent to use application system (with proof of use prior to registration); streamlined renewal procedures; minimization of the elements to obtain an application filing date; and simplified procedures for recording changes in name and ownership of trademark applications and registrations. Overall, the TLT is intended to facilitate international trade: It is of particular importance to individuals and small businesses looking for markets in other countries. Currently, WIPO's Standing Committee on Trademarks, Industrial Designs, and Geographical Indications (SCT) is conducting negotiations on proposed revisions to the TLT. This standing committee recommended that the WIPO General Assembly hold a diplomatic conference March 13-31, 2006, to consider adoption of the revised TLT.

9.5.3 Patent Law Treaty

The Patent Law Treaty (PLT), adopted by WIPO in June of 2000, entered into force on April 28, 2005. The PLT is the product of several years of multilateral negotiations on harmonizing global patent systems. The PLT harmonizes certain patent application procedures in order to reduce or eliminate formalities and the potential for loss of rights. The PLT does not harmonize substantive patent law, that is, the laws of each country that set forth the conditions that must be met in order to receive a patent for an invention in that country. WIPO, however, is holding discussions regarding harmonization of substantive patent law. The PLT will make it easier for patent applicants and patent owners to obtain and maintain patents throughout the world by simplifying and, to a large degree, merging national and international formal requirements associated with patent applications and patents.

The PLT:

- simplifies and minimizes patent application requirements to obtain a filing date,
- imposes a limit on the formal requirements that Contracting Parties may impose;
- eases representation requirements for formal matters;
- provides a basis for the electronic filing of applications;
- provides relief with respect to time limits that may be imposed by the Office of a Contracting Party and reinstatement of rights where an applicant or owner has failed to comply with a time limit and that failure has the direct consequence of causing a loss of rights; and
- provides for correction or addition of priority claims and restoration of priority rights.

9.5.4 Patent Cooperation Treaty System

The roots of the Patent Cooperation Treaty (PCT) go back to 1966, when the Executive Committee of the Paris Convention for the Protection of Intellectual Property called for a study of how to reduce, for applicants and patent offices, the

duplication of effort involved in filing and obtaining patent applications for the same invention in different countries. The resulting WIPO treaty, the PCT, was signed in Washington, D.C., in 1970 and entered into force in 1978. The treaty was amended in 1979, 1984, 2001, and 2004. As of September 15, 2005, there are 128 Contracting Parties to the PCT. By simplifying patent application filing, the PCT assists innovators in obtaining patent protection throughout the world. It also encourages small businesses and individuals to seek patent protection abroad.

Under this WIPO-administered treaty, nationals or residents of a contracting state file a single patent application, called an “international” application, with their national patent office or with WIPO as a receiving office. This automatically lodges the application for patent protection in all 128 Contracting Parties of the PCT. The treaty provides a longer period of time, 30 months, before applicants must commit themselves to undertake the expenses of translation, national filing fees, and prosecution in every country in which they want protection. By providing applicants with more time and information to evaluate the strength of their potential patent and to determine marketing plans, the 30-month period allows applicants to be more selective as to the countries in which they will file. This is a major improvement over the 12-month priority period provided under the Paris Convention for patent applicants.

Under the PCT, WIPO publishes the “international application”, together with a non-binding indication as to the potential patentability of the invention. This non-binding indication is a preliminary search and/or examination by an “International Authority,” one of 11 patent offices designated by WIPO that currently meet the treaty’s minimum staffing and documentation requirements. The non-binding indication helps applicants decide whether to proceed with their patent applications in national or regional offices. Patent offices also benefit from these non-binding indications of patentability when deciding whether to grant national or regional patents based upon PCT applications. Foreign search reports identify relevant documents that help patent offices to conserve resources in the examination process and to improve the quality of examination.

9.5.5 Madrid System for the International Registration of Marks

The Protocol relating to the Madrid Agreement Concerning the International Registration of Marks — the Madrid Protocol — was adopted in Spain's capital on June 27, 1989, and entered into force on December 1, 1995. The protocol is one of two treaties comprising the Madrid System for international registration of trademarks. The first treaty, the 1891 Madrid Agreement, provides for the registration of trademarks in several countries through the filing of one international trademark registration with WIPO in Geneva. The Madrid Protocol, developed because some countries had problems with the operation of the Madrid Agreement, is seen as an improvement to the system for international registration of trademarks. As a result, more and more trademark owners are using the Madrid Protocol every year to protect their trademarks in foreign countries. As of September 15, 2005, there were 66 contracting parties to the Madrid Protocol.

The Madrid Protocol is a filing treaty and not a substantive harmonization treaty. It provides a cost-effective and efficient way for trademark holders — individuals and businesses — to ensure protection for their marks in multiple countries through the filing of one application with a single office, in one language, with one set of fees, in one currency. Moreover, no local agent is needed to file the application. Applications may be filed in English, French, or Spanish. An application for international registration has the same effect as a national application for registration of the mark in each of the countries designated by the applicant. Once the trademark office in a designated country grants protection, the mark is protected just as if that office had registered it.

The Madrid Protocol also simplifies the subsequent management of the mark, since a simple, single procedural step serves to record subsequent changes in ownership or in the name or address of the holder with WIPO's International Bureau. Before the protocol was enacted, burdensome administrative requirements for the normal transfer of business assets often made it difficult for trademark owners to carry out valid assignments of their marks internationally. The protocol allows the holder of an international registration to file a single request with a single payment, in order to record the assignment of a trademark with all the member countries. Registration renewal also involves a simple, single procedural step. International registration lasts 10 years, with 10-year renewal periods. Trademark owners may designate additional countries if they decide to seek protection in more member countries or if new countries accede to the protocol.

If the basic application or registration upon which the international registration is based — is cancelled for any reason in the first five years, the Madrid Protocol gives the holder of the international registration the opportunity to turn the international registration into a series of national applications in each designated country. This series of applications keeps the priority date of the original international registration in each country. The holder also preserves the rights acquired in each member country, even if international registration fails.

9.5.6 The Hague System for the International Deposit of Industrial Designs

The Hague System is an international registration system that enables owners to obtain protection for their industrial designs with a minimum of formality and expense. A single international application filed with WIPO's International Bureau replaces a whole series of applications previously required in a number of states and/or intergovernmental organizations party to the Hague System. The subsequent management of the international registration is considerably easier under this system. For example, one single step is all that is needed to record a change in the name or address of the holder, or a change in ownership for some or for all of the designated contracting parties. The Hague System had 42 contracting parties as of April 26, 2005.

9.5.7 Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purpose of Patent Procedure

The Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purpose of Patent Procedure, signed on April 28, 1977, was amended on September 26, 1980. The Budapest Treaty eliminates the need to deposit micro-organisms in each country where patent protection is sought. Under the treaty, the deposit of a micro-organism with an "international depositary authority" satisfies the deposit requirements of treaty members' national patent laws. An "international depositary authority" is capable of storing biological material and has established procedures that assure compliance with the Budapest Treaty. Such procedures include requirements that the deposit will remain

available for the life of the patent and that samples will be furnished only to those persons or entities entitled to receive them.

The establishment of "international depositary authorities" offers several advantages to both patent applicants and contracting states. Patent applicants benefit because the need to deposit in many countries in which they seek patent protection is dramatically reduced. Since a single deposit in any "international depositary authority" will satisfy the national disclosure requirements of any member state, patent applicants' costs are much lower. Using a single authority as a deposit increases the deposit's security, and provides a mechanism of distribution of the deposit. Contracting states benefit because they can rely on the treaty's uniform standards to assure effective deposit and public availability. They no longer need to independently establish a 'recognized' depositary to meet national patentability disclosure requirements. As of May 2005, there are 60 Patent Offices that abide by the terms of the Budapest Treaty and 35 "international depositary authorities" in 22 different countries.

9.5.8 International Convention for the Protection of New Varieties of Plants

The International Convention for the Protection of New Varieties of Plants (UPOV) established an internationally recognized intellectual property system for the protection of new plant varieties. The UPOV Convention encourages and rewards the ingenuity and creativeness of breeders developing new varieties of plants. Anyone who develops a new variety of plant that may be disease resistant, drought resistant, cold tolerant, or simply aesthetically more pleasing is no less an inventor than someone who improves an automobile engine or develops a new medicinal drug. The only difference is that the plant breeder works with living material, rather than in-animate matter.

The process of creating a new plant variety is often long and expensive. Reproducing an existing plant variety, however, can be quick and relatively easy. Thus, an effective system of intellectual property protection needs to reward innovation by permitting inventors to recover their investment and, at the same time, disseminate the knowledge of that innovation for others to improve upon. The UPOV system establishes basic legal principles of protection that reward

breeders for their inventiveness by providing exclusive rights to their plant invention, while encouraging the development of new plant varieties.

Under the 1991 UPOV system, the most recently concluded of these, the exclusive rights granted to the inventor (commonly referred to as “breeder’s rights”) require that another party other than the owner of the breeder’s rights receive the breeder’s authorization to:

- produce or reproduce the protected variety;
- condition the variety for propagation purposes; and
- offer to sell or market, import, export, or to stock the protected variety.

To receive a breeder’s right, a breeder must invent a plant variety that is new, distinct, uniform, and stable. Under the UPOV Convention, however, a plant breeder generally does not need breeder authorization to use protected plant varieties for non-commercial or experimental acts or acts done for the purposes of breeding new plant varieties. The UPOV Convention also allows each member nation to restrict the breeder’s right in relation to any variety to allow farmers to use part of their harvest for subsequent plantings in their own land.

These restrictions, however, must be within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder. UPOV member states hold bi-annual meetings of the Council, a permanent body of the convention. Other UPOV bodies include the Consultative Committee, the Administrative and Legal Committee, and the Technical Committee, made up of several Technical Working Parties (TWPs) across several agricultural sectors. The TWPs meet periodically to share and discuss observations and advancements in agricultural sectors, which help to standardize examination standards among member states. These TWP meetings benefit breeders as well, since more uniform standards lead to greater consistency of application filings in different territories. As of June 29, 2005, there were 59 member States to the UPOV Convention. UPOV membership is expected to continue to increase in the next several years.

9.6 Summary

The preamble to the TRIPS Agreement affirms the desire of member States “to take into account the need to promote effective and adequate protection of intellectual property rights”, while “recognizing the underlying public policy

objectives of national systems for the protection of intellectual property, including developmental and technological objectives". "Effective" implies enforceable. But whether IPR protection is "adequate" depends largely on what the systems of rights are supposed to achieve. Evidently, TRIPS is not only supposed to establish effective legal remedies to prevent unauthorized copying, but also to stimulate technological advancement.

In information age, with technology advancing at an accelerating rate, simply implementing the TRIPS Agreement is not enough to establish a robust intellectual property system. While it was the first comprehensive IPR agreement of its time, it is a decade old, and reflects a "snapshot" in time. Technological advances in information technology, biotechnology, and other fields require the updating of national and international laws that protect IP. Fortunately, WIPO has led the way in developing new international norms to meet these challenges. WIPO also has led the way in simplifying and streamlining the procedures for seeking, obtaining, and maintaining rights in multiple countries. Through its "Global Protection Services" and its harmonization treaties, it saves creators and national IP offices a great deal of time and effort. WIPO also makes available its excellent technical assistance for establishing and improving IPR systems worldwide. Countries should look to both the WTO and to WIPO when crafting their IPR systems.

9.7 Self Assessment Test

- Q.1 Discuss the historical development of IPRs in the global legal regime.
- Q.2 Why is TRIPS an important instrument in protection of IPRs at International level?
- Q.3 Give an account of flexibilities provided by the TRIPS agreement.
- Q.4 What system of protection is provided by PCT, TLT and PLT? Describe briefly.
- Q.5 What agreements/ treaties give protection to new aspects of IPRs (plant varieties, micro-organism etc.).

9.8 Further Readings

1. *TRIPS; Trademark Law Treaty; Patent Law Treaty; Patent Cooperation Treaty System*

2. Roffe, P, "The political economy of intellectual property rights – an historical perspective".

3. J. Faundez, J, Footer, ME and Norton, JJ (eds), *Governance, Development and Globalization: A Tribute to Lawrence Tshuma*, London, Blackstone Press, 2000.

Unit 10

Objectives of the Protection of IPRs

Objectives:

After going through this unit, you should be able to understand the rationale and objectives of the protection intellectual property rights.

Structure:

10.1 Introduction

10.2 The Rationale for IP Protection

10.2.1 Patents

10.2.2 Copyright

10.2.3 The Nature of Traditional Knowledge and the Purpose of Protection

10.3 The Objectives IP Protection

10.3.1 Copyrights and Culture

10.3.2 Patents and Innovation

10.3.3 Trademarks and Consumer Protection

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10.1 Introduction

Intellectual property is a form of knowledge which societies have decided can be assigned specific property rights. They have some resemblance to ownership rights over physical property or land. But knowledge is much more than intellectual property. Knowledge is embodied in people, in institutions and in new technologies in ways that have long been seen as a major engine of economic growth. Alfred Marshall, the “father” of modern economics, thought so in the 19th Century. With recent scientific and technical advances, particularly in biotechnology and information and communications technologies (ICTs), knowledge has become to an even greater degree than before the principal source of competitive advantage for both companies and countries. Trade in high

technology goods and services which are knowledge-intensive, and where IP protection is most common, tends to be among the fastest-growing in international trade.

In developed countries, there is good evidence that intellectual property is, and has been, important for the promotion of invention in some industrial sectors, although the evidence as to exactly how important it is in different sectors is mixed. For example, evidence from the 1980s indicates that the pharmaceutical, chemical and petroleum industries were predominant in recognizing that the patent system was essential to innovation. Today, one would need to add biotechnology and some components of information technology. Copyright has also proven essential for the music, film and publishing industries.

For developing countries, like the developed countries before them, the development of indigenous technological capacity has proved to be a key determinant of economic growth and poverty reduction. This capacity determines the extent to which these countries can assimilate and apply foreign technology. Many studies have concluded the most distinctive single factor determining the success of technology transfer is the early emergence of an indigenous technological capacity. Thus, the main objective of protection of intellectual property rights is to stimulate growth and development. In the time of information technology, when the world boundaries have come to an end, it is necessary to protect intellectual property. The expenditure on R&D has to be repaid otherwise there will be no investment in it.

10.2 The Rationale for IP Protection

Intellectual property creates a legal means to appropriate knowledge. A characteristic of knowledge is that one person's use does not diminish another's. Moreover the extra cost of extending use to another person is often very low or nil. From the point of view of society, the more people who use knowledge the better because each user gains something from it at low or no cost, and society is in some sense better off. Economists therefore say that knowledge has the character of a *non-rival public good*. The other aspect of knowledge, or products embodying knowledge, is the difficulty - often intrinsic of preventing others from using or copying it. Many products, incorporating new knowledge, can be easily copied. Probably most products, with sufficient effort, can be copied at a fraction (albeit

not necessarily small) of the cost it took to invent and market them. Economists refer to this latter characteristic as contributing to *market failure*. If a product takes considerable effort, ingenuity and research, but can be copied easily, there is unlikely to be a sufficient financial incentive from society's point of view to devote resources to invention.

10.2.1 Patents

Patents are one way of addressing this market failure. By conferring temporary market exclusivities, patents allow producers to recoup the costs of investment in R&D and reap a profit, in return for making publicly available the knowledge on which the invention is based. However, someone else can only put that knowledge to potential commercial use with the authorization of the patentee. The costs of investment in R&D and the return on that investment are met by charging the consumer a price based on the ability to exclude competition.

Protection is therefore a bargain struck by society on the premise that, in its absence, there would be insufficient invention and innovation. The assumption is that in the longer run, consumers will be better off, in spite of the higher costs conferred by monopoly pricing, because the short term losses to consumers are more than offset by the value to them of the new inventions created through additional R&D. Economists take the view that the patent system improves dynamic efficiency (by stimulating technical progress) at the cost of static efficiency (*arising from the costs associated with monopoly*).

This rationale for patent protection is relatively straightforward, but it is dependent on a number of simplifying assumptions that may not be borne out in practice. For instance, the optimal degree of patent protection cannot be accurately defined. If protection is too weak, then the development of technology may be inhibited through insufficient incentives for R&D. If too much protection is conferred, consumers may not benefit, even in the long run, and patentees may generate profits far in excess of the overall costs of R&D. Moreover, further innovation based on the protected technology may be stifled because, for instance, the length of the patent term is too long or the scope of the protection granted is too broad.

The length of the monopoly granted is one determinant of the strength of patent protection. Another is the scope of the patent. A broad patent is one that allows a right that goes considerably beyond the claimed invention itself. For example, a

patent which claims a gene might only specify one use of that gene. But, under certain approaches to the scope of protection, the patentee will also have the rights to uses of the genetic information other than those disclosed in the patent, including those discovered later by someone else. Broad patents can tend to discourage subsequent innovation by other researchers in the general area of the patent. In contrast, narrow claims will encourage others to 'work around' the patent, offering less restriction on related research by others. They may also tend to create stronger rights which are less vulnerable to challenge in the courts. The licensing policy pursued by the patentee will also have an important effect on the dissemination of new technologies, and the extent to which further research is affected by the granted rights.

The optimal degree of protection (where the social benefits are judged to exceed the social costs) will also vary widely by product and sector and will be linked to variations in demand, market structures, R&D costs and the nature of the innovative process. In practice IPR regimes cannot be tailored so precisely and therefore the level of protection afforded in practice is necessarily a compromise. Striking the wrong compromise - whether too much or too little - may be costly to society, especially in the longer term.

One underlying assumption is that there is a latent supply of innovative capacity in the private sector waiting to be unleashed by the grant of the protection that the IP system provides. That may be so in countries where there is substantial research capacity. But in most developing countries local innovation systems (at least of the kind established in developed countries) are weak. Even where such systems are stronger, there is often more capacity in the public than the private sectors. Thus, in such contexts, the dynamic benefit from IP protection is uncertain. The patent system may provide an incentive but there may be limited local capacity to make use of it. Even when technologies are developed, firms in developing countries can seldom bear the costs of acquisition and maintenance of rights and, above all, of litigation if disputes arise.

Economists are also now very aware of what they call *transactions costs*. Establishing the infrastructure of an IPR regime, and mechanisms for the enforcement of IP rights, is costly both to governments, and private stakeholders. In developing countries, where human and financial resources are scarce, and legal systems not well developed, the opportunity costs of operating the system

effectively are high. Those costs include the costs of scrutinizing the validity of claims to patent rights (both at the application stage and in the courts) and adjudicating upon actions for infringement. Considerable costs are generated by the inherent uncertainties of litigation. These costs too need to be weighed against the benefits arising from the IP system. Thus the value of the patent system needs to be assessed in a balanced way, acknowledging that it has both costs and benefits, and that the balance of costs and benefits is likely to differ markedly in diverse circumstances.

10.2.2 Copyright

The rationale for copyright protection is not dissimilar to that of patents, although historically greater weight has been given to the inherent rights of creative artists to receive fair remuneration for their works than to the incentive effects. Copyright protects the form, in which ideas are expressed, not the ideas themselves. Copyright was and remains the basis for making the publishing of literary and artistic works an economic proposition by preventing copying. Unlike patents, copyright protection does not require registration or other formalities (although this was not always the case).

As with patents, the trade-off for society is between the incentive offered to creators of literary and artistic works and the restrictions this places on the free flow of protected works. But, unlike patents, copyright in principle protects the expression of ideas, and not the ideas as such, which may be used by others. And it only prevents the copying of that expression, not independent derivation. The central issue for developing countries concerns the cost of access to physical or digital embodiments of the protected works, and the approach taken to enforcement of copyright protection. As with patents, there are normally exceptions in law where the rights of owners are moderated in the wider public interest, known in some countries as "fair use" provisions (for example in the US), as "fair dealing" in the UK tradition, and exceptions to the reproduction right in the European tradition. It is the issue concerning the cost of access, and the interpretation of "fair use", that is particularly critical for developing countries, made more so by the extension of copyright to electronic material, and to software. Copyright protects works for much longer than patents but does not protect against independent derivation of the work in question. Under TRIPS copyright allows a

minimum of fifty years after the death of the author, but most developed countries and several developing countries have increased this to 70 years or more. While the main reason for the extension of copyright has been pressure from the copyright industries (notably the film industry in the US), there is no clear economic rationale for copyright protection being so much longer than that for patents. Indeed, the rate of technical change has led in several industries to a shorter effective product life (for example, successive editions of software programmes) which point to longer copyright protection being redundant. The successive increases in the period of copyright protection have given rise to concern in some quarters. The US Supreme Court is hearing a case that challenges the 1998 Copyright Term Extension Act on the grounds that it violates the Constitution which specifies that protection must be for "limited times". In addition, it is asserted that an extension of protection granted for a work that already exists can have no incentive effect, and also violates the *quid pro quo* requirement in the Constitution that monopoly rights are provided in exchange for public benefits.

As with patents, a key issue for developing countries is whether the gains to be elicited from the incentives provided by copyright outweigh the increased costs associated with the restrictions on use that flow from copyright. Although there are exceptions, such as India's film or software industry, most developing countries are net importers of copyrighted material, just as they are net importers of technologies. Since copyright does not need registration or other formalities, once a country has copyright laws in place, the impact of copyright is more ubiquitous than in the case of patents. Software, textbooks, and academic journals are key items where copyright is a determining factor in pricing and access, and which are also essential ingredients in education and other spheres crucial to the development process. For instance, a reasonable selection of academic journals is far beyond the purchasing budgets of university libraries in most developing countries, and increasingly in developed countries as well.

The interaction of the Internet and copyright is an issue of particular and growing importance for developing countries. With printed media, there are provisions for "fair use" under copyright law, and the nature of the medium lends itself to multiple use either formally through libraries or informally through borrowing and browsing (as may be done in a bookshop before deciding to purchase). With

material accessed through the Internet, the technology allows encryption and other means to exclude potential users even from browsing, unless they have paid the relevant charge. While the "philosophy" of the Internet has hitherto been about free access, increasingly sites with material of value are moving towards charging for use, or limiting access in other ways. Further, the DMCA in the US and Europe's Database Directive have provisions that go well beyond what is required under TRIPS, and are held by many users to have shifted the balance of protection too far in favour of investors and originators of collections of data.

Thus, as with patents, there is a need for balance. Too much protection by copyright, by other forms of IP protection, or by technology, may restrict the free flow of ideas on which the further progress of ideas and technology depends. For developing countries, affordable access to works essential for development such as educational materials and scientific and technical knowledge may be affected by unduly strong copyright rules.

10.2.3 The Nature of Traditional Knowledge and the Purpose of Protection

How can traditional knowledge be defined? Whilst the vast majority of the knowledge is old in the sense that it has been handed down through the generations, it is continually refined and new knowledge developed, rather as the modern scientific process proceeds by continual incremental improvement rather than by major leaps forward. One of the author suggested that the term "folklore" be replaced by the more appropriate "expressions of culture" which represents living, functional traditions, rather than souvenirs of the past. Whilst most traditional knowledge and folklore is passed on orally, some of it, such as textile designs and Ayurveda medicinal knowledge is codified. The groups that hold traditional knowledge are very diverse: individuals, groups or groups of communities may all be custodians. Such communities might be indigenous to the land or descendents of later settlers. The nature of the knowledge is also diverse: it covers, for example, literary, artistic or scientific works, song, dance, medical treatments and practices and agricultural technologies and techniques.

Whilst a number of definitions for traditional knowledge and folklore have been put forward, there is no widely acceptable definition for either of them. It is not

only the broad scope of traditional knowledge that has confounded the debate so far. There is also some confusion about exactly what is meant by “protection” and its purpose. It should certainly not be equated directly with the use of the word “protection” in its IP sense. In its report on a series of fact-finding missions, WIPO sought to summarise the concerns of traditional knowledge holders as follows:

- concern about the loss of traditional life styles and of traditional knowledge, and the reluctance of the younger members of the communities to carry forward traditional practices
- concern about the lack of respect for traditional knowledge and holders of traditional knowledge
- concern about the misappropriation of traditional knowledge including use of traditional knowledge without any benefit sharing, or use in a derogatory manner
- lack of recognition of the need to preserve and promote the further use of traditional knowledge.

Another source more succinctly classified these and other possible reasons for protecting traditional knowledge as:

- equity considerations – the custodians of traditional knowledge should receive fair compensation if the traditional knowledge leads to commercial gain
- conservation concerns – the protection of traditional knowledge contributes to the wider objective of conserving the environment, bio-diversity and sustainable agricultural practices
- preservation of traditional practices and culture – protection of traditional knowledge would be used to raise the profile of the knowledge and the people entrusted with it both within and outside communities
- prevention of appropriation by unauthorized parties or avoiding “biopiracy”
- promotion of its use and its importance to development.

A single solution can hardly be expected to meet such a wide range of concerns and objectives. The type of measures required to prevent misappropriation may not be the same, indeed may not be compatible, with those needed to encourage the wider use of traditional knowledge. A multiplicity of complementary measures will almost certainly be required, many of which will be outside the field of intellectual

property. Indeed, underlying the debate may be a much bigger issue such as the position of indigenous communities within the wider economy and society of the country, in which they reside, and their access to or ownership of land they have traditionally inhabited. In that sense, concerns about the preservation of traditional knowledge, and the continued way of life of those holding such knowledge, may be symptomatic of the underlying problems that face these communities in the face of external pressures.

10.3 The Objectives IP Protection

Intellectual property issues are getting more and more attention these days. Unfortunately, far too often the issues are framed in such a way as to highlight controversy and polarize debate. In fact, there is much about intellectual property protection on which everyone can agree. To arrive at a fuller understanding of the issue, it is worth spending some time considering how intellectual property rights (IPR) developed and what role they play in achieving widely shared objectives. What comes out of such an examination is the conclusion that intellectual property protection is a vital part of social, cultural, and economic development. Protection of intellectual property rights alone will not necessarily bring about this development. But it is hard to imagine that a country could ever reach these goals in the absence of such protection.

10.3.1 Copyrights and Culture

We can credit 17th century England with the concept of a “copy right,” a law that protects the creative products of authors, artists, singers, and, to reflect developments since the 1600s, filmmakers and software developers. This concept even has been enshrined in the U.S. Constitution, whose Article I, Section 8, Clause 8 reads, “the Congress shall have power.....to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”

The essential idea behind a copyright is simple: Artists and creators should be able to enjoy the fruits of their labor for a specified time period, after which the material becomes available for public use. Society benefits because this incentive to create will yield a rich and varied cultural menu for its citizens. Indeed, one can say that

copyright protection is a necessary ingredient for ensuring cultural wealth in our societies.

But if copyright protection is important for reaching cultural objectives, then it is equally true that the theft of these copyrighted goods — that is, the pirating of cultural works — is a threat to the creative sectors in our societies. Many international institutions, such as the World Bank, the World Intellectual Property Organization (WIPO), and even the United Nations Educational, Scientific, and Cultural Organization (UNESCO), recognize this link.

While there has been much press play recently regarding on-line downloading of music and movies in developed countries like the United States, in fact it is in the developing world that much of the serious damage is being done. Many new musical voices, new authors, and new stories on film around the world have never been made available, simply because the incentives were not there for these artists to take a risk. They have known that whatever they produce will be immediately pirated — stolen — and they will not be provided the means to develop their talent.

This is not an abstract argument: It has happened on all continents. A good example is Hong Kong, where a thriving movie industry was so hurt by rampant piracy that, just a few years ago, observers were predicting it would disappear from the filmmaking map. Today, the industry is in better shape and movie goers around the world enjoy new and exciting releases primarily because Hong Kong authorities took decisive action to combat the piracy problem. Studios in Bangladesh's "Dhaliwood" movie industry went on strike in March 2004 to protest the problem of piracy and demand action by the government. Similar developments have taken place in the world of music. Ethiopian musicians went on a seven-month strike in 2003 to press for better anti-piracy measures from the government. These artists all understood the importance of protecting their works from pirates.

10.3.2 Patents and Innovation

Patents protect diverse inventions such as industrial designs, manufacturing processes, high-tech products, and molecular compounds. Like copyrights, patents were recognized in the U.S. Constitution. The Constitution granted Congress the powers to promote "the progress of science and useful arts" by providing inventors

the limited but exclusive right to their “discoveries.” The concept of a patent is based on a trade-off. The inventor or innovator is given the exclusive right to make or use the invention for a limited period of time. In exchange, most countries’ rules require the inventor to reveal the method behind the invention so that others may understand and learn from it. After the exclusive period of time elapses, anyone can make, use, or sell the invention. The inventor is granted an economic incentive to take risks and create; the public receives the benefit of the invention, as well as the inventor’s knowledge for application in other uses.

Americans have always prided themselves in being a nation of innovators and inventors, willing to try something new, whether in industry or politics. As a result, patents are an important part of America’s history. While most American school children probably do not know that patents are mentioned in the U.S. Constitution, many of them do know from their studies that one of the first patents issued was for Eli Whitney’s cotton gin, a machine that was to have a critical influence on America’s subsequent development. But if this is true for America’s experience, then it is just as true for other countries, including developing ones. Strong intellectual protection will not only encourage innovation, it will provide the level of confidence in an economy needed to attract foreign investment and spur technology transfer.

It has been shown in a number of studies looking at the relationship between intellectual property, especially patents, and development. For example, a study highlighted in the World Bank’s Global Economic Prospects Report 2002 found that “across the range of income levels, intellectual property rights are associated with greater trade and foreign direct investment flows, which in turn translate into faster rates of economic growth.” Another 2002 World Bank publication, Development, Trade, and the WTO: A Handbook, noted a number of studies which, despite the lack of clear-cut results, did indicate that stronger patent regimes could:

- 1) lead to increased global trade;
- 2) attract more foreign direct investment;
- 3) lead to increased licensing of technologies to, and possibly more local production; and
- 4) contribute to higher growth rates.

A good example of this today can be found in Jordan, where strengthened patent protection has been linked to tangible economic benefits. The International Intellectual Property Institute (IPI) released a comprehensive report that looked at the establishment of globally competitive pharmaceutical and biomedical technology industries in Jordan. The report found that "Jordan's economy has benefited greatly from the recent adoption of better intellectual property protections," according to an IPI release. The report noted that the strengthened intellectual property regime, particularly for patents, "spurred a new focus on research-based innovation for Jordanian pharmaceutical companies."

10.3.3 Trademarks and Consumer Protection

A trademark is a word, phrase, symbol, or design, or a combination of words, phrases, symbols, or designs, that identifies and distinguishes the source of the goods of one party from those of others. They thus identify the producer of a product and serve as an indicator of quality. They also inform consumers where to seek recourse if the product fails. Some forms of trademarks have been around for thousands of years. Visitors to the Great Wall in China can still see the original producer's mark on some of its bricks. This mark allowed the emperors of that time to be assured of quality and, if needed, accountability.

This assurance of quality and accountability is completely lost when counterfeiters illegally use a trademark and deceive consumers with their goods. When many people think of counterfeit goods, they might bring to mind items such as fake Rolex watches, Zippo lighters, or Louis Vuitton handbags. The counterfeiting of these goods does inflict serious harm on legitimate companies, and it deprives governments of lost revenues. But counterfeiting of trademarks has another serious consequence. It can threaten the health and safety of the public.

In testimony before the U.S. Senate Judiciary Committee in March 2004, U.S. Assistant Attorney General Christopher Wray provided examples of trademark violations. He noted that, in early 2004, a man from the state of Alabama pled guilty to 28 counts of counterfeiting and pesticide misbranding charges. He sold mislabeled and adulterated pesticides needed to control mosquitoes and, indirectly, West Nile virus, to municipalities and private businesses in a number of U.S. states. The defendant falsely identified the brand name of the pesticide, the manufacturer, and the active ingredients.

Counterfeiting is a serious public health and safety threat in the developing world as well. One of the more tragic stories comes from China. In May 2004, the Associated Press reported from Beijing that 47 people had been accused of selling fake infant formula; an act that authorities said led to the deaths of dozens of children. According to the report, subsequent police raids uncovered thousands of bags of counterfeit milk powder with the labels of 45 different brands.

Counterfeit pharmaceuticals also have become a serious and deadly problem around the globe, especially in the developing world. No one knows this better than the head of Nigeria's National Agency for Food and Drug Administration and Control, Dorothy Akunyili. Her story, which was detailed in a May 2004 front-page article in the Wall Street Journal, seems to come straight from an action novel. Unfortunately, it is fact, not fiction. Her work to expose and combat counterfeit pharmaceuticals has led to assassination attempts against her life and arson attacks against her facilities. But she has bravely continued her work, spurred on in part by the personal experience of losing her sister, who died because of a counterfeit insulin injection. She, like many others, has understood the dangers and threats posed by counterfeiting.

10.4 Summary

There is a common thread that runs through the above discussion of copyrights, patents, and trademarks. Promoting cultural development, fostering innovation and growth, and protecting public health and safety are all commonly held goals. We all want to live in societies where these values are cherished and fostered. In the current debate surrounding intellectual property, it is worth remembering the role of intellectual property protection in our daily lives.

Although the first international treaties protecting intellectual property rights — the *Paris Convention for the Protection of Industrial Property* and the *Berne Convention for the Protection of Literary and Artistic Works* — were reached in the 1880s, coordination across countries for IPR protection remained inadequate until recently. Intellectual property rights were first included in the Uruguay Round negotiations of the General Agreement on Tariffs and Trade (GATT), 1986-1993, with the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

TRIPS require signatories to make it easier for their citizens and others to obtain and enforce IP rights. TRIPS member countries should be aware that if their IP laws seem, on paper, to support innovation and protect IP, but in practice do not, they generate little besides cynicism. Conversely, cost-effective means to secure, transfer, and enforce IP rights boost cultural development and standards of living, as well as promote public health and safety.

Although effective IP enforcement serves important economic ends, it also promotes a variety of other common social goals. By providing the opportunity for pharmaceutical companies to recoup investments in research, enforcement of IP rights can help eliminate serious health risks. Besides encouraging the creation of new technologies, patent and trademark laws are useful as well to prevent serious, well-documented harm posed by counterfeit goods. For example, those who consciously palm off medical products under false labels are apt to be unconcerned about whether their goods are worthless or toxic to unsuspecting users.

Local cultures are also at stake. Works by local artists, authors, musicians, and others are often supported in ways that are relatively independent of the need for private risk capital. Yet, even when that is true, they are often displaced by the illegal sale of cheap or free music, movies, and books originating abroad, works that would cost far more if copyrights in such works were locally enforced. People everywhere who are concerned about cultural growth and preservation as well as improved health and economic well-being should understand how IP protection serves those ends.

10.5 Self Assessment Test

1. What is the rationale of protection of patents?
2. What are the reasons of protection of copyrights?
3. What do you mean by "traditional knowledge"? Why is it necessary to protect it?
4. Is it true that copyright and culture has a relation? Discuss it in the light of objectives of protection of copyright.
5. What are objectives behind the protection of patents and trademarks?

10.6 Further Readings

1. Cornish, W. R., *Intellectual Property: Patents, Copyrights, Trademarks and Allied Rights*, 4th ed. (London: Sweet & Maxwell, 1999)
 2. *Intellectual Property Law Journals*
 3. WIPO *Intellectual Property Handbook*, (2004); WIPO *Intellectual Property Law: Introductory notes; WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).
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Unit 11

Commercialization of IPR

Objectives:

After going through this unit, you should be able to understand how the intellectual property rights can be commercialized and what are the benefits and shortcomings of such commercialization.

Structure:

- 11.1 Introduction
- 11.2 Capacity to Commercialize the Invention
 - 11.2.1 Resources Required
 - 11.2.2 Conditions Necessary to Obtaining a Commercial Return
 - 11.2.3 The Quality of IP Management
- 11.3 Legal Vehicles for the Commercialization of IP
 - 11.3.1 Assignment or Sale
 - 11.3.2 Advantages of Assigning Compared to Licensing
 - 11.3.3 Disadvantages of Assigning
 - 11.3.4 Checklist for Assignment
 - 11.3.5 Licensing
 - 11.3.6 Types of licenses
 - 11.3.7 Exclusive or non-exclusive license?
 - 11.3.8 Advantages of licensing
 - 11.3.9 Disadvantages of licensing
 - 11.3.10 Negotiations and payment
 - 11.3.11 Royalty rates

11.4 IPR Enforcement as a Pre-Condition for Successful Commercialization

11.5 Evidence on the Role of Intellectual Property Rights in Economic Performance

11.6 Summary

11.7 Self Assessment Test

11.8 Further Readings

11.1 Introduction

Intellectual property may be commercialized by sale or assignment, or by entering into various types of contractual business relationships such as licensing. The business vehicle by which this is done may be by way of partnership, joint venture or spin-off a company. IPRs play a crucial role as the legal vehicle through which either the transfer of knowledge or the contractual relationship is affected. Alternatively, knowledge may be exploited in-house, in which case the role of IPRs is to block imitating competition.

Commercialization can be defined as the process of turning an invention or creation into a commercially viable product, service or process. Commercialization may require additional R&D, product developments, clinical trials or development of techniques to scale-up production prior to taking the results of research to market. This is important because not all inventors or creators wish or have the resources, skills and appetite for risk to commercialize their own inventions or creations. Public research organizations (PROs) usually fall into this category.

Commercialization is the process of bringing intellectual property (IP) to the market in order for it to be exploited in return of business profits and growth. The financial success of any IP commercialization will certainly depend on the choice of the most appropriate commercial tool. Risks should also be counted for in any IP commercialization. Although the very nature of risks will depend on the type of commercialization and its arrangement, their preventive identification, assessment and management would give organizations a lower exposure to risks.

The IP risks specific to commercialization activities are those related to:

- ❖ Nature of the IP
- ❖ Confidentiality
- ❖ Nature of the product/service

❖ Financial matters

❖ Legal issues Business reputation

An assessment of the risks can be based on the likelihood of the event occurrence (e.g. ownership disputes, third party infringement, etc.) and the associated consequences (e.g. irrelevant, moderate or important). Built on the following outcomes, organizations will be able to make adequate decisions about the risk management actions to be adopted (e.g. subscribe to an appropriate insurance, revise relevant clauses within contracts, etc.). "Commercializing IP" is a series of fact sheets aiming to provide an introduction to the forms of commercialization that can be useful for less advanced public likely to be involved in exploitation of intangible assets.

11.2 Capacity to Commercialize the Invention

Not all entities, be they academic institutions or innovative businesses, particularly those in economies in transition, have the necessary financial and technical capabilities to take an invention or creation all the way to market by themselves. For example, in the case of biotechnology, the main markets for such products tend to be international. In many situations, therefore, an organization that owns IP rights to an invention will need one or more commercial partners.

In commercialization of biotechnology innovation, lead times between commencement of commercialization activities and generation of significant revenues tend to be long. For this reason, sales revenues are unlikely to provide a significant source of funds in the short term. Similarly, financial institutions will be reluctant to provide loans to new entities that are unlikely to generate significant sales revenues within what is perceived to be a reasonable time, especially when the risk of commercial failure may be perceived to be high. The following section enumerates the resources required for commercialization.

11.2.1 Resources Required

Converting an original or new idea, concept or design to a desired product available in the market place requires:

- Time
- Funds (own or borrowed)

- Creative effort
- Innovative effort (own, of employees and of external collaborators, partners, advisors and consultants)
- Persistence
- Focused management of the entire process from idea to market. Spin-offs especially, need to consider the unique market characteristics with regard to the business concept and concept implementation.

11.2.2 Conditions Necessary to Obtaining a Commercial Return

To obtain commercial returns from IP, certain conditions must exist. These include inter alia:

- The existence of a customer or the ability to create customers; and
- An entity controlling the manufacture and sale of the resulting products.

11.2.3 The Quality of IP Management

The above overview of the resources required highlights the importance of skilled and effective management of the commercialization process. Considering the risks involved in commercialization, it is clear why intellectual property asset management and business planning are so important. The likelihood of commercial success increases when management ensures that, before R&D projects are initiated, there is clear customer demand for the new products or services and a profitable way to bring them to market. The ability to create economic value from intellectual assets is highly contingent on the management capabilities of the public research organization or firm and the implementation of appropriate business strategies. There is now significant empirical work to support the view that effective use of intellectual assets and technologies depends on the quality of management. Business angels, venture capitalists and other providers of early-stage financing for innovative businesses likewise attach great importance to the experience and skill of the management teams of businesses they are considering for investment. One study shows that management practices, including

management of human capital and technology, setting targets and reporting on performance, vary widely both within and between countries and within industries. Often, it is only at the stage when IP protection has been secured that an organization confronts the task of commercialization. This belated, often superficial, market awareness is one of the main pitfalls to avoid as an IP owner. Technological and commercial merit of IP should be assessed at a very early stage in order that successful commercialization can occur. Leading firms have increased the efficiency of their R&D processes by linking internal R&D activities more closely to their business strategy and relying on external sources to gain access to complementary knowledge and round out technology portfolios. Intellectual asset management should aim to realize value from patented inventions through licensing and sale, and to link patents better with innovation through incorporation into improved products and services. Such techniques are particularly important in competitive industries where innovative products become commodities rapidly through follow-on innovation and imitation.

Each situation should be analyzed taking into account the nature of the IP, the market conditions, the financial position of the IP owner and the available resources. The ability of the inventors or creators to assist further in the commercialization of the IP should also be assessed. Specific factors such as speed of market entry, the degree of control required and the potential for growth are considered important in selecting the appropriate commercialization vehicle. In summary, market considerations should be introduced at an early stage in the IP commercialization strategy. In this way, the IP strategy will be, in part, shaped by that company's markets, customers, competitors, the nature of the technology and its relationships with research institutions, government departments and other organizations. A reasonable assessment of possible strategies for entering the market is also needed. Part of this assessment involves consideration of the levels of investment that will be required, and over what time period, for successful commercialization of the IP. At this point, an entity can form a tentative view of whether it may be feasible to commercialize the IP itself, or whether possible licensees or potential purchasers of the IP should be identified and approached.

11.3 Legal Vehicles for the Commercialization of IP

There are two chief legal vehicles by which owners may commercialize their intellectual property (apart from in-house exploitation):

- To sell or assign the IP; and
- To license the IP rights.

11.3.1 Assignment or Sale

When rights are assigned (other than partially), the recipient or assignee acquires ownership of all rights which previously belonged to the assignor, although the assignor may take a license back from the assignee. This can be done between two independent parties, but it can also be done on an internal level and form part of employment agreements and agreements with consultants or contractors. Assignments of intellectual property rights can be done either via sales or via transfers, i.e. with or without direct financial compensation.

Patent laws require the assignment to be in writing to effectively assign the intellectual property. Thus, it is common for the assignment to be implemented by a form of contract or deed. This is because:

- The parties wish to add other conditions to the transfer of the IP such as a license back to the seller, warranties concerning the IP or a restraint of trade clause; and/or
- The parties wish to clearly document their intention to transfer full title to the IP.

The difference in outcome between an exclusive license in IP and an assignment of the IP can be a fine one. Ultimately the distinction will depend on the content of the documentation that deals with the purported transfer of the IP. Factors which may influence the analysis include whether the right to sue infringers has been withheld, and the right to take advantage of the IP at a later date or under certain conditions.

11.3.2 Advantages of Assigning Compared to Licensing

There may be occasions when an assignment is advantageous compared to licensing:

- If a patent is sold for a lump sum, you get the value immediately, without having to wait up to 20 years to realize that value progressively. You also avoid the

risk that the patent may be invalidated in Court or superseded by another technology.

- In addition, assignment of the patent to a spin-off company may be a precondition for funding, if the patent does not belong to the company.
- The assignee assumes risk: After an outright sale of IP rights the assignor receives an immediate reward with no further risk or involvement or obligation to maintain the patent.
- The assignor only has to deal with a one-off transaction: The assignor will not have the burden of following up to make certain that proper royalty payments are made.
- The assignor does not have to monitor the assignee's exploitation endeavours. The assignor will not have to determine whether or not the assignee is adequately exploiting the invention. In contrast, a licensor may be required to verify that a licensee is exploiting the invention in accordance with the license agreement.
- Circumstances may dictate assignment rather than licensing: Assignment rather than licensing may be appropriate if a patented product has been brought to market and it is doing very well but may have a relatively short remaining commercial life. Similarly, assignment may be appropriate if a customer wants a patented product to round out a line of its own products and portfolio of patents.
- Negotiations are typically simplified because they only involve two parties (whereas negotiations with several parties may be required in the case of non-exclusive licenses).
- The assignor may be able to negotiate a larger up-front fee for an outright sale as compared with the up-front fee for granting a license.

11.3.3 Disadvantages of Assigning

- It is difficult to negotiate a sale amount: Since an assignment usually involves an outright sale of intellectual property rights for a fixed amount of money, it can be difficult to negotiate the terms of the sale.
- Assignment does not provide an opportunity to partake in additional profits if the invention turns out to be more valuable than anticipated: Once the transfer of

rights is complete, the assignor will not profit further if the invention turns out to be more valuable than anticipated. An assignor must be prepared to accept the fact that the purchaser of its patent may make a substantially higher return than the sum the assignor received for the sale.

- There is a risk that the assigned patent may never be properly exploited or may not be successful in the market place because the assignor will be unlikely to be given the opportunity to be involved in the commercialization process, but may possess knowledge critical for successful commercialization. If the assignor has an interest in subsequently using the invention, a solution can be to license back the IP rights from the assignee.

- Part assignment: The assignee must be aware that joint ownership holds many pitfalls. A joint owner, regardless of the size of its interest, has full use of the patent. The joint owner may use or sell the patented invention for its own profit without concern or consultation with any other owners. It may also sell its interest to any other party – but only with the agreement of the other owners.

- If an assignment involves the sale of a business then government duties may apply to the sale.

- Sale may affect existing license agreements and may have to include conditions guaranteeing maintenance of existing license agreements.

11.3.4 Checklist for Assignment

The following tests may help an owner of IP determine whether they should assign the IP rather than grant a license. If the answer is 'yes' then the enterprise may prefer to relinquish ownership:

- Do you want to avoid having to enforce the IP?
- Have you determined that the IP is not a core asset for the conduct of your business, present or future?
- Do you want to avoid any future involvement with the IP, including in particular the ongoing costs and administration requirements in maintaining registration of the IP?
- Is any ongoing use of the IP likely to be for a limited time or purpose?

- Is the IP unlikely to establish or maintain a strategic market or alliance position for the enterprise?
- On balance, is there no alternative approach to commercialization better suited to your objectives?

11.3.5 Licensing

A public research organization or SME may not be in a position to undertake the direct exploitation of IP rights. Accordingly, assuming that the entity owns the intellectual property, in order to exploit the financial potential of an invention fully, it can consider finding an appropriate licensee for the IP. Licenses allow patent owners to share inventions or other intellectual property in a controlled manner and to receive revenue (e.g. royalties) or other benefits (e.g. access to another firm's knowledge). A patent for example is licensed when the owner of the patent (the licensor) grants permission to one or more entities (the licensee(s)) to use the patented invention for mutually agreed purposes in a mutually agreed manner. In such cases, a licensing contract is generally signed between the two parties, specifying the terms and scope of the agreement. In some countries, intellectual property laws require licensing agreements to be registered with the national registry.

Ownership of the IP remains with the licensor just as a landlord retains ownership when letting physical property. If a suitable licensee is found and the terms of the license agreement are properly drafted, such an arrangement can represent a secure source of income for the licensor while minimising costs and risk. There is no generally best time to license the invention, as the timing will depend on the specificities of the case. However, for an independent entrepreneur or inventor, it is often advisable to start the search for licensees as early as possible in order to guarantee a revenue stream that will be useful to cover the costs of patenting. There is no need to wait for the patent to be granted.

In addition to timing, it is critical to find the right partner(s) to generate profits from the commercialization of the patented invention. The best licensee will probably have a direct strategic fit with the technology. Care should be taken when licensing to holders of competing technology since their interest may be driven by a desire to hold back the technology to be licensed thus ensuring the continuing

success of their own. A licensee who seems to have complementary rather than competing technology and is looking to expand its product range is likely to be a more suitable partner.

While patent law does not provide for licensing IP such as “know-how” (confidential information), know-how is often included in a license agreement to facilitate the licensee to practice the invention. Technical information such as formulae, techniques and operating procedures, commercial information such as customer lists and sales data, marketing, professional and management procedures and, indeed, any technical, trade, commercial or other information, process or device occurring or utilized in a business activity may be capable of being protected and licensed.

11.3.6 Types of licenses

There are three main types of licensing agreements depending on the number of licensees who will be allowed to use the licensed intellectual property. A license may be exclusive, sole or non-exclusive as explained below:

- Exclusive license: a single licensee has the right to use the intellectual property, which cannot even be used by the owner. An exclusive license permits only the licensee and persons authorized by the licensee to exploit the invention.
- A sole license permits the licensee to work the intellectual property, prevents the grant of additional licenses, but allows the owner to also work the intellectual property.
- A non-exclusive license allows the owner to retain the right to exploit the licensed property as well as the right to grant additional licenses to third parties. Several licensees and the owner have the right to use the intellectual property.

11.3.7 Exclusive or non-exclusive license?

The decision on whether to grant exclusive or nonexclusive licenses hinges on the nature and maturity of the technology and on the licensor’s business strategy. If the technology can become a standard that is needed by all players in a specific market to perform their business, a non-exclusive, widely held license would be the most advantageous. If the technology needs one company to invest heavily to commercialize the product (e.g. a pharmaceutical product that requires investments

in performing clinical trials), a potential licensee would not want to face competition from other licensees, and may rightly insist on obtaining an exclusive license. In addition to exclusive sole and non-exclusive licenses, it is also possible to combine some elements of these in a single licensing agreement, i.e. to grant some rights on an exclusive basis and others on a sole or non-exclusive basis.

11.3.8 Advantages of licensing

From a licensee's point of view, licensing in can achieve the following objectives:

- Help a company make financial savings in R&D and effectively eliminate the risk of spending valuable resources going down an R&D "cul-de-sac".
- Ensure that a company's product range remains at the leading edge, which is particularly important in an environment where product life cycles are short and there is a danger of being left behind by the competition.
- Help a company to expand rapidly without the R&D effort and inevitable time-lag associated with going it alone.
- A fruitful licensing arrangement may also act as a catalyst for the formation of a longer term strategic partnership between licensor and licensee.
- Another instance where a (non-exclusive) license may be desirable is where a company is already making and selling a product which is or may be infringing another party's patent. In this situation, the company may be interested in obtaining a non-exclusive license under the patent to remove the possibility of infringement action.

From the point of view of the licensor, the advantages of licensing out include:

- A source of much-needed revenue helping a company to continue developing, manufacturing and selling new products.
- In terms of marketing, licensing IP can expand customer awareness by entering new countries and markets.
- From a strategic point of view, licensing enables a company to take a product to market without the associated expenditure in terms of facilities and distribution networks that would otherwise be required.

- Licensing overseas helps to overcome the barriers involved in negotiating local government regulations and allows those who are familiar with local markets to maximize returns from the licensed product.
- Licensing can have the advantage of shaping future strategic relationships between the licensor and licensee which may lead to future licensing deals or partnerships.
- Finally, licensing can be a means of avoiding litigation in the event that one or both parties infringe the rights of the other. A one-time competitor can become a partner when sharing mutual benefits.
- A license (exclusive or non-exclusive) may ultimately deliver more money than an assignment. If the product's value increases with the success of the license and with inflation, a license income can grow over a 20-year period to many times what would have been the sale value at the time of entering into the license.
- The licensor can regain the rights to intellectual property easily by not renewing the license (exclusive or non-exclusive) at the end of the license term (unless it is a perpetual license).
- Infringement/revocation proceedings are avoided, especially where a potential licensee is already selling a possibly infringing product.
- The patent owner can obtain ownership or license to any improvements made by the licensee if a suitable right to improvements can be negotiated by the patent owner in the license.
- The license terms (both exclusive and non-exclusive) can be flexible so as to suit both parties. A license can be limited territorially or only for certain types of products covered by the patent.
- The licensee (typically in the case of an exclusive license, but possibly also in the case of non-exclusive licenses) can be required contractually to maintain the patent and to be directly responsible for invalidity and infringement issues.
- Several non-exclusive licenses may permit more rapid nationwide marketing of the invention.

Particular advantages of exclusive licenses:

- Negotiations are with one party only. The main advantage of an exclusive license is that negotiations only occur with one party, who then has full responsibility to exploit the invention.

- The up-front payment and/or royalty rate is usually higher for an exclusive than a nonexclusive license. An exclusive license is more valuable than a non-exclusive license because it means that others, including the patent owner, do not have the right to exploit the patented invention.

- In an exclusive license, it is only necessary to monitor the performance of one party. When there are multiple non-exclusive licensees, the licensor will have the burden of monitoring the performance of each one.

The following table summarizes the most important benefits of licensing for both sides of the transaction.

Summary of Mutual Benefits of Licensing

Benefits to Licensee	Benefits to Licensor
Savings on R&D investment	Creates new revenue streams by realizing the full potential of the technology
Eliminates risks associated with in-house R&D	Expands customer awareness
Reduces time to market	Helps overcome the challenge of establishing the technology in foreign countries and lowers costs and risks
Ensures that products are leading edge	Provides savings on distribution and marketing expenses
Adds new product lines to a portfolio	Provides a means of avoiding litigation
Strategic partnerships can be formed	Strategic partnerships can be formed

11.3.9 Disadvantages of licensing

- If an exclusive license is in place, the patent owner cannot grant licenses to other parties and the patent owner cannot exploit the invention (unless the patent owner then obtains a license from the exclusive licensee): The drawback is that if the chosen licensee does not effectively promote or sell the invention, the patent owner cannot then do so, nor can the patent owner grant further licenses to others. Therefore, in negotiating an exclusive license, it is very important to be sure that the licensing agreement sets forth clearly the efforts that the licensee will have to expend, as well as minimum acceptable levels of sales and/or royalty payments to the patent owner.

- In drafting a license agreement, one must take into account many conceivable events and influences that can affect the subject matter of the license so as to minimize future problems, costs and litigation. In drafting the license agreement, it is important that, as far as possible, all eventualities be anticipated and clearly defined, including both positive and negative changes over the course of the agreement's term. For example, if the sales volume is either greater or less than anticipated, what options do the licensee and licensor have to react to the circumstances? In the event that the licensee becomes insolvent, does the license automatically terminate at the option of the licensor?

- The performance of a licensee (exclusive and non-exclusive) may be difficult to monitor: Licenses (exclusive and non-exclusive) require constant attention and may be upstaged by other new developments. The performance of the licensee may be difficult to describe or monitor, but will need to be monitored by the licensor. It may be difficult for a licensor to satisfy a Court (if need be) that a licensee has not met a performance standard agreed to in the license.

- Ultimately a patent owner may end up negotiating with more than one party: A patent owner may have to negotiate license agreements with several parties, each of whom then has responsibility to exploit the patent owner's invention.

- The up-front payment and royalty rate for a non-exclusive license is typically lower than for an exclusive license because others may also have the right to exploit the patented invention. For the same reason, the up-front payment for an exclusive license is usually lower than for an assignment.

- Non-exclusive licensees cannot start infringement proceedings (unlike patent owners and exclusive licensees): Therefore, in the case of a non-exclusive license where there is an infringing third party, the patent owner would normally be responsible for commencing an infringement action.

11.3.10 Negotiations and payment

The basis of the negotiation will focus on financial compensation or "consideration" due for the grant of a license and will typically include the following:

- License initiation fees or up-front fees.
- Running royalties based on gross revenues received by the licensee through the exploitation of the invention.
- Minimum royalties, milestone payments, or other resource commitments by licensees to the commercialization of the invention.

Specific payment amounts and royalty rates will be determined by factors such as the nature of the invention, its value, the strength of its protection, its market and its cost of manufacture. However, as a rule of thumb, a low selling price and high volume product equates to a lower royalty rate and a high selling price and low volume product equates to a high royalty.

11.3.11 Royalty rates

In licensing deals, the owner of the right is generally remunerated through lump-sum payments or through recurring royalties, which may be based on sales volume of the licensed product (per unit royalty) or on net sales (net sales-based royalty). In many cases, the remuneration for a patent license is a combination of a lump-sum payment and royalties. Sometimes, an equity stake in the company of the licensee may replace a royalty. While industry standards for royalty rates exist for particular industries and may usefully be consulted, it must be remembered that each licensing agreement is unique and the royalty rate depends on the particular and very distinct factors being negotiated.

Some of these factors are whether the licensor is simply transferring the patent and prototype, or whether it is also contributing some significant know-how or other technical information, as well as the amount of mark-up that is typical for that type

of product. Royalty rates, like the provisions of the licensing agreement depend upon negotiation. Given the number of potential pitfalls, it is advisable to seek expert advice when drafting and negotiating licensing agreements.

11.4 IPR Enforcement as a Pre-Condition for Successful Commercialization

In entering into an intellectual property transaction, one of the most important assessments to be made relates not only to the validity and market-relevance of the asset but also the capacity to protect and enforce the IP. Once the new product is offered for sale and if it is successful in the market, it is likely that competitors will attempt to make a competing, cheaper product with identical or similar features. This may lead to undue financial pressure, particularly if the organization or partners have invested significantly in R&D for creating the product. This is where, in order to sustain a burgeoning enterprise, it is so important that the parties have recourse to the effective enforcement of IPRs.

The exclusive rights granted by patents give the owner the opportunity to obtain from the national courts one or more injunctions to prevent or stop the infringing activity. In addition to a final or permanent injunction restraining infringement, the patent owner and complainant may seek a temporary injunction on an urgent basis, pending a final trial, if it is suffering unquantifiable damage and acts without delay. It is also possible to obtain orders to have the infringing goods seized and destroyed and to obtain information as to the persons from whom the defendant obtained the supplies of the infringing material and the persons to whom the defendant in turn has supplied the infringing material.

Courts also have the power to effectively freeze the defendant's assets, thus preventing them from being removed from the jurisdiction or from being used up prior to the full trial. If and when the case goes to trial, the complainant then has the opportunity to claim damages or compensation for lost profits. In the alternative, following an injunction, the patent owner may be able to persuade the infringer to negotiate a licensing agreement for use of the invention. Whichever alternative is used, the opportunity for the patent owners or exclusive licensees to enforce their rights when they are advised that the invention is being copied is critical to maintaining their competitive edge, market share and profitability.

11.5 Evidence on the Role of Intellectual Property Rights in Economic Performance

In principle, the case for intellectual property rights as a key tool in the innovation process, and by extension an important factor in generating economic growth is solid on *a priori* grounds. However, as intellectual assets contribute a larger share of economic value, the policy question of how exactly the IP regime should balance the benefits of control against the benefits of access becomes increasingly salient. Apart from the IPR regime itself, the other key factor that will determine the impact of IPRs on economic performance is competition policy. The trade-off between encouraging innovation and constraining competition is governed not only by the laws on patents, trademarks, copyright etc. It is also governed by the general framework regulating market competition. A well-designed competition policy will go a long way towards ensuring that companies can use intellectual property rights for their intended purpose, which is to build innovative businesses, without abuses that could stifle beneficial competition.

Where the above balance should be struck is an empirical question, the answer to which will depend among other things on the level of development and the structure of the economy in question. Unfortunately, the only systematic evidence that exists is on patents. This is unsatisfactory because trademarks in particular are likely to also play a very significant role in economic performance for two reasons. First, trademarks are the intellectual property rights by which companies protect their brand name capital, i.e. their investments in the quality of their products and the reputation of their brands. Brand name capital is a major component of the intangible assets of leading innovative companies and accounts for a major part of their stock market valuations. Second, trademarks are one of the main intellectual property rights by which companies differentiate their products from those of competitors. This product differentiation creates variety of choice for consumers. Increased product variety in turn is considered a major source of gains from international trade and of value-added and therefore economic growth. Studies suggest that trademarks are associated with higher productivity levels and productivity growth, particularly in the services sector. But it would be desirable to produce more internationally comparable economy-wide empirical evidence on the nexus between the trademark regime and economic performance.

Similarly to the case of trademarks, solid empirical evidence on the value of copyright to society and the impact of the copyright regime on economic performance is scarce because copyright protection is granted automatically to all creative works without a need to file or register. However, “creative” copyright-based industries contribute a rising share of GDP in advanced economies.

On the one hand, patent law has been strengthened worldwide over the past two decades. This has helped to increase substantially the value of patents and has in turn led companies to file for more patents. It has also boosted their licensing activity with positive effects on the diffusion of technology. On the other hand, increased patenting has also restricted the freedom to operate of other companies. The balance between the two effects has not yet been well investigated.

Recent studies have shown that the trade-off between a “temporary exclusive right” and “innovation incentive” is much more complex than the typical textbook description, making the optimal design problem very difficult. The trade-offs between open and controlled access to intellectual assets and their effects on business innovation and economic performance need to be further explored, especially in an environment that is changing rapidly as a result of technical developments, such as the internet. A related issue is the development of markets for technology, since they increase the value of technological assets for both IP holder and society. In so doing it is necessary to review potential obstacles to the creation of technology markets – whether regulatory, fiscal or informational - with a view to identifying policy options for overcoming such obstacles.

11.6 Summary

IPRs are not only a legal asset, it also represents a Commercial value & may thus be a financial instrument. To reap the commercial benefits an IPR may be

- ❖ Sold
- ❖ Licensed
- ❖ Collateral or Security

A direct way of monetizing a patent is to base a company on its patent and develop a business around that technology. The owner of the IP sells it to an offshore company (ideally when the IP is still at a low value). The offshore company

licenses some or all of the rights for the use of the IPRs to an onshore intermediary or agency company created in a jurisdiction offering tax benefits (i.e. tax treaty network, withholding tax exemption for royalty payments and other advantages). The onshore company then sub-licenses IPRs customers in various countries. Royalty fees pass to the onshore intermediary company, which may be subject to zero or a low withholding tax rates due to double tax treaty. The small percentages kept by the onshore company for work done in negotiating contracts are subject to tax. The balance after tax is passed on by the onshore company to the offshore company free of any further withholding taxes. To maximize revenues an IPR can be used for:

- ❖ Sponsorship
- ❖ Merchandizing
- ❖ Publicity

Thus, intellectual property has economic value and can be commercialized for the purpose of earning profit.

11.7 Self Assessment Test

1. Whether the invention has the capacity to be commercialized? Explain.
2. Compare the two legal methods by which the intellectual property can be commercialized? Which one is better in your opinion? Give reasons.
3. Discuss assignment and licensing as the tools to commercialize the IP? Give advantages and disadvantages.
4. What is the pre-condition for the successful commercialization of intellectual property rights? Explain.
5. Do intellectual property rights have any role in economic performance? Discuss.

11.8 Further Readings

1. W. O Collection of National Laws

2. Intellectual Property Law Journals
3. WIPO Intellectual Property Handbook, (2004); WIPO Intellectual Property Law: Introductory notes; *WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).

Unit 12

Financial Values Trade in IPR

Objectives:

After going through this unit, you should be able to understand why it is necessary to assess and value IP and how assessments and valuations can be performed and what are the challenges in valuation of IP.

Structure:

- 12.1 Introduction
 - 12.2 Why to Care About Valuation of Intellectual Property?
 - 12.3 Nature of IP Valuation
 - 12.4 Value Sources of IP
 - 12.4.1 Cost Approach
 - 12.4.2 Problems with the Cost Approach
 - 12.4.3 Market Approach
 - 12.4.4 Income Approach
 - 12.5 Valuation Discounts
 - 12.5.1 Minority Interest Discount
 - 12.5.2 Illiquidity Discount
 - 12.5.3 Key Person Discount
 - 12.5.4 Contractual Discounts
 - 12.6 The Challenge of Valuing Intellectual Property Assets
 - 12.7 Summary
 - 12.8 Self Assessment Test
 - 12.9 Further Readings
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12.1 Introduction

Unlike many of other assets found on a company's balance sheet, the intangible assets, such as patents, trademarks and copyrights, are among the most difficult to quantify in terms of their value. It becomes further complicated to ascertain value when contemplating more obscure intangible assets, such as trade dress, trade

secrets or software code. While difficult, the value of these assets can be accurately calculated via a number of industry accepted methodologies. The key to a successful analysis is to develop a comprehensive plan of action. The initial point to determine when attempting to value intellectual property or intangible assets is the rationale for undertaking the analysis in the first place. Why do you need to know the value of assets?

Intellectual property assets such as patents, trademarks or copyrights are increasingly the core of many organizations and transactions. Licensing and assignments of intellectual property rights have become common in the market and the use of these types of asset as loan security has grown. This new reality has given rise to the growing importance of valuation of intangibles. Trading an asset requires knowing its value. Several methodologies are commonly used in the market to value these assets.

12.2 Why to Care About Valuation of Intellectual Property?

Valuation of intellectual property rights is part of the good management of intellectual property within an organization. Indeed, knowing the economic value and importance of the intellectual property rights you create and develop assists in the strategic decisions to be taken on the assets, but also facilitates the commercialization and transactions concerning intellectual property rights.

There are many business situations where valuation is required:

a) Valuation of a company for the purposes of a merger, acquisition, joint venture or bankruptcy.

Companies are increasingly based on intangible assets and investment in knowledge. Indeed, according to studies, expenditures on knowledge, through investments in R&D or software, have grown at a higher rate than expenditures in tangibles. This change in investments has consequently been reflected by a heavy importance of intangible assets in companies. Therefore, to know the value of companies it is essential to know the value of their intellectual property.

b) Negotiations to sell or license intellectual property rights.

As in other business transactions, organizations negotiating agreements to sell or license intellectual property rights commonly have to agree on a price. Knowing the value of the intellectual property right is essential to reach such an agreement, but also to make sure the parties are engaging in a good deal.

c) Support in situations of conflict, such as court proceedings or alternative dispute resolution mechanisms (such as arbitration).

In scenarios of conflict, quantification of damages is often a necessary step of the process. The correct valuation of the intellectual property right at stake is therefore essential to guarantee a fair recovery of the damages.

d) Fund raising through bank loans or venture capital.

Valuation of the intellectual property to be used as security for bank loans or to attract venture capital and investors is essential. Indeed, several studies reveal that, in particular, owning patents and a proper IP management play a crucial role in the decision of venture capitalists.

e) Assisting internal decision making.

Valuation also plays a role on decisions concerning the patenting strategies and country selection for registration of intellectual property rights, or can assist organizations to identify weaknesses such as ownership uncertainties that have an impact in the value of the intellectual property rights and on decisions for the exploitation of such assets.

f) For accounting and taxation purposes.

Organizations are required to report on their assets, including their intangible assets. Valuation is therefore a necessary step, as well as in situations of tax planning involving intellectual property.

Defining the objectives and context of the valuation is essential, since it determines the strategy as well as the type of valuation method(s) that should be used. This is therefore the first step to take when performing a valuation.

12.3 Nature of IP Valuation

IP valuation is part art, part science. IP valuation is science in that the valuation analyst will use well-defined and tested financial formulas and models to capture the quantitative aspects of the IP and combine them to arrive at a value conclusion. IP valuation is art in the ways that the valuation analyst applies these financial formulas and models. The valuation analyst will apply these in meaningful ways based on the qualitative aspects of the IP, the amount of independent research that the valuation analyst performs, and the relative background of the valuation analyst. All of these drive the value opinion quality. Never expect a valuation opinion to be a guarantee of value for a transaction. Valuation opinions are merely

reasoned estimates for what the value could be in a given situation within probabilities within the valuation industry.

12.4 Value Sources of IP

The value for IP can come from many sources. These include through the direct IP exploitation, through IP ownership, through IP licensing, and through not exploiting the IP. An IP owner may use the IP in a product they make and market directly, such as developing of a product described by a patent. An IP owner may generate economic value by owning a patent or trademark, which keeps a competitor from exploiting the IP in its own products, thereby putting the competitor at a market disadvantage. An IP owner may generate value through IP licensing to a third party for development and marketing. Lastly, an IP owner may generate economic value from not exploiting IP, like in the case where a third party may pay the IP owner a reasonable rate of return for not exploiting the IP if it would affect the third party's business adversely. When considering the IP portfolio in a transaction, always verify the IP portfolio's value sources. Acquiring companies should study the target company's IP portfolio to determine which IP has value components the target company is exploiting, and question the target company on IP components that have no clear value source.

Three primary components drive IP value. They include primary sources, secondary sources, and speculative extensions. When considering the IP portfolio of an acquisition target, always be sure to consider secondary and speculative extensions to the IP, particularly through synergies with the acquirer's ongoing business lines. Such extensions may create additional hidden value in a deal for the acquirer, or give cause for a higher asking price by the seller.

The first step a valuation analyst should take when looking to value IP, particularly for patents and other forms that require periodic administration is to ensure that the IP owner is current with their maintenance fees with the governmental agencies. Maintenance fees keep the IP registration current and under government protection. Without proper maintenance of government fees, the IP owner irrevocably waives monopoly power and government protections. Thus, the financial value of IP without the monopoly protection provided by the government is effectively nothing. Trade secrets do not generate value from government registrations and granted monopoly power. Therefore, the value of trade secrets is

dependent on the level of confidentiality and non-compete agreements in place with those in a position to know the trade secret's value-creating components. Companies with loose employee agreements, loose security procedures around their trade secrets, and loose IP ownership clauses put the value of their trade secrets at risk.

An important part of any valuation assignment is the value standard employed for the assignment. Value standards include fair value, fair market value, investment value, liquidation value, and forced liquidation value. The value standard depends on the valuation purpose because each purpose will have a different value measure. For example, if a company owns IP that empowers a next generation consumer electronic device and the owner is looking to sell it to a major consumer electronics manufacturer, then fair market value may be the appropriate value standard to use. However, contrast that with IP used in a declining industry where the company is undergoing involuntary bankruptcy proceedings and needs to sell the IP rights quickly. In this case, the distress of the owner's financial situation and the prospects for future value is likely materially lower than in the prior example. In this case, an appropriate value standard may be forced liquidation value. When commissioning an IP appraisal, ensure that the value standard matches the deal (e.g., fair market value for going concerns, forced liquidation value for involuntary bankruptcies, and so on). The wrong value standard can generate materially different valuation results in a transaction.

Many factors drive the value of a particular piece of IP. They include things such as market dynamics, general economic climate, geopolitical issues, and the application of IP to the market. Market dynamics plays a tremendous role in the value of IP, particularly for things like brands and trademarks. The general economic climate also plays an important role in the IP valuation. Much of this depends on the optimism or pessimism of the market. For example, during the dot-com boom of the late 1990's and into early 2000, IP in the high-tech sector commanded an investment premium. The market's optimism of the potential economic returns from high-tech IP drove up prices and licensing royalties. However, by mid 2002, the market viewed with skepticism the economic returns of the high-tech sector after having funded billions of dollars in losses for unrealized IP gains. The market priced high-tech IP lower because of its overall pessimism.

Other factors drive IP value as well. These include the competitive landscape, the IP's profitability, the amount of capital required to exploit the IP, the timing of cash flows related to the IP, and others. It is imperative that the valuation analyst consider all practical and material IP value factors. Failure to consider these factors in a transaction may materially misrepresent the IP's value. Perhaps one of the biggest value drivers is the ability to detect infringement. IP where it is easy to detect infringement is more valuable than IP where it is not easy to detect infringement. This is because it may be less costly to detect infringement and it may be easier to prove under dispute with the infringing party. IP where it is difficult to detect infringement is worth less because there may be excess costs associated with infringement discovery and defense in disputes. For example, it is easier for Nike to sue a shirt-company that makes knock-offs of their best selling golf shirts and win. It is much more difficult for Guidant to reverse-engineer the software code in a competitor's pacemaker device to detect infringement of their software patents.

12.4 Value Sources of IP

There are three generally accepted ways to value IP. They include the cost approach, the market approach, and the income approach.

12.4.1 Cost Approach

A valuation analyst who values IP using the cost approach looks at what it cost to produce the IP, or what it would cost to reproduce the IP on a given effective date. These costs include things like labor, materials, applied overhead, and capital charges. Depending on the effective date of the valuation, the valuation analyst may trend costs from a historical reference point to the effective date. For example, if the IP owner has cost data from five years ago and wants the IP value using the cost approach in today's dollars, the valuation analyst may grow the costs at the rate of inflation over those five years to arrive at the cost as of today. Once the valuation analyst accumulates all costs, the valuation analyst adjusts the final tally for obsolescence to arrive at a final value opinion.

There are several methods to establish value using the cost approach. The first method is to use the reproduction cost new method of the cost approach. Using this method, the valuation analyst looks to recreate the subject IP using the same or

similar development methods and materials as the original effort. The reproduction cost new method does not account for changes in technology, higher utility from other materials, and other factors. Valuation analysts use the reproduction cost new method to value IP such as embedded computer software for tax reporting purposes. The second method is to use the replacement cost new method of the cost approach. Using this method, the valuation analyst considers what it would take to recreate the subject IP, but the valuation analyst can consider the impact of new technology and development methods on the IP recreation effort. Valuation analysts may use the replacement cost new method of the cost approach to value the establishment of a consumer brand from 20 years ago in today's market, which contains many new direct-to-consumer options such as the Internet and Podcasting.

12.4.2 Problems with the Cost Approach

The cost approach rarely provides a credible valuation for IP such as patents or trade secrets. Cost does not equal value and it is a common misconception to relate the value of IP to its investment amount. It is a rare case when the cost and the value are the same. Future economic income potential, market timeliness, and profit potential drives the value of IP. Rumors are that Nike spent \$35 in the 1970's to purchase rights to the "swoosh" emblem now universal to all of Nike's products. That swoosh today is instantly recognizable around the world. In fact, Nike no longer puts the word "Nike" near the swoosh because the public knows the symbol's meaning so well. Thus, the symbol is worth substantially more than what it cost Nike to purchase it. In spite of the issues involved with using the cost approach to establish value, in certain instances, it may work well, such as determining the value of a trademark and the costs to change from one brand to another in an M&A deal.

Obsolescence

The obsolescence types used in cost approach valuations include physical deterioration, and functional, technological, and economic obsolescence. Physical deterioration generally does not apply to IP because IP is intangible. Its physical manifestation, on mediums such as paper or electronic media, physically deteriorates, but the IP itself never physically deteriorates. Functional, technological, and economic obsolescence do affect the value of IP. Functional obsolescence occurs when the IP user must incur excess operational costs to use

the IP versus current alternatives, which may be state of the art. Technological obsolescence occurs when technological forces render the IP worthless. For example, patents for a next generation computer floppy disk drive are likely worthless because there are better technological options already on the market, such as high capacity flash memory. Economic obsolescence occurs when the use of the IP in its highest and best form cannot provide an adequate return on investment. This can occur in IP easily because IP is generally unique and may have little use outside of a particular function.

12.4.3 Market Approach

The valuation analyst who values IP using the market approach looks for comparable transactions in the same industry and of the same relative size that recently occurred in the open market. Value is determined indirectly using the comparable IP transaction as a proxy for value of the target IP. The reasoning is logical: if the market paid \$X for rights to the use or own that IP once, then one would expect that the market would reasonably pay a similar amount again, *ceteris paribus*. There are several approaches to establishing this value, depending on the desired value standard and value purpose. For example, if one desires the fair market value for licensing IP to another company, the valuation analyst would look to other recent licensing transactions in the same industry and use a similar royalty rate. Another way to value IP using the market approach is to use a gross multiplier such as a cash flow factor to arrive at a value. For example, IP generates \$1M of free cash flow in year 5, and the valuation analyst uses a cash flow multiplier of eight, so the IP is worth \$8M. Valuation analysts use other multiplier factors commonly as well and these factors are usually ratio based. Once the valuation analyst arrives at a value, then the valuation analyst adjusts the IP's value to account for identifiable differences, such as the remaining life of IP protections.

The problem is that the market approach may not work well for IP. First, comparable circumstances rarely exist. IP by its very nature is novel and unique. It is generally impossible for the valuation analyst to find a comparable transaction in the market. Therefore, any reference to other IP transactions is at best a crude value approximation. Second, the comparable may have the support and expertise of a proven management team, existing customers, available working capital, and a host of other factors that dictate why the IP sold for the price it did. The candidate

IP under valuation would require the same circumstances, or the valuation analyst must make adjustments to account for the change. However, these adjustments are generally arbitrary approximations themselves. Their use can compound valuation error.

Third, the market is not rational. Investors enter the market routinely with imperfect information and these investors drive prices sky-high. That is why a company like Sonic Wall could have a P/E ratio of 8675 in the dot-com bubble and a market valuation of \$1.2B on earnings of \$147,000. That is beyond irrational—it is insane. Market participants also leave the market irrationally and abnormally depress market transaction prices. Fourth, the value of the IP depends on the application of the IP to the market, and the circumstances need to be similar to serve as a credible value proxy. The trademark for a soft drink may not command near the value applied to a car that it does for fruit flavored, sugar sweetened water. To use a soft drink brand transaction as a basis for establishing the value of a car's brand is not appropriate either—the two are altogether different in their application and industry. Finally, the comparable transaction may represent a portfolio of IP. It is rare to find standalone comparable IP transactions that do not include other bundled tangible or intangible assets. Be vigilant about the use of IP valuations that rely heavily on the market approach. The market approach is a relative valuation technique, subject to market bias. While the market approach works well for things such as licensing royalty rates, be wary of patent valuations or trade secrets valued using the market approach.

12.4.4 Income Approach

The income approach is the last method that a valuation analyst uses to value IP. This method is the most principled, requires the most discipline and insight into value-creating features of the IP to complete, and is what valuation analysts use commonly for IP valuation assignments. A valuation analyst using the income approach bases their opinion on the IP owner's business plan, marketing and operational inputs, and other external references. Using this method, the valuation analyst projects the economic income generated solely from the IP over a discrete period, known as the remaining useful life (RUL) as well as any residual value after the RUL.

Remaining Useful Life

The RUL is likely one of the most difficult attributes of the IP's value to determine when using the income approach. Unfortunately, it is also one of the most significant drivers for the IP's value. IP with a long RUL will be worth more than IP with a shorter RUL. The RUL will vary based on the IP under review. Utility patents lose their useful life 20 years after the filing date—the point at which the monopoly protection from the government ends. No company would pay royalties in the 21st year, because they can copy the IP owner's design and methods without fear of legal retaliation. Copyrights have a useful life well after an author's death. Trade secrets, such as the formula for Coca Cola, may have an indefinite useful life if they remain confidential. If applicable, the valuation analyst will also consider some residual IP value after the RUL. That is, even after the RUL is over, there may be some residual value to the IP because of market factors. For example, a bankrupt company's trademark may have value even though the company is no longer in operation. A valuation analyst may determine that the residual value may decrease over five years to \$0. In this case, the valuation analyst would calculate the decreasing cash flows for the five years after the RUL, discount those to the present value, and add those to the value of the cash flows calculated over the RUL.

Determine Economic Income

To determine economic income, the valuation analyst projects the revenue (or cost savings) generated from the IP over the RUL, and then offsets those revenues with costs related directly to the IP such as labor, and materials, required capital investment, and any appropriate economic rents or capital charges. There are several methods that valuation analysts employ to measure economic income associated with a given IP. Some include the net income method, the relief from royalty method, the profit split method, and others.

Consider an example using the net income method. The valuation analyst can determine the cash flows related solely to the IP, which is the after-tax net income adjusted for net capital investment and interest charges associated with the maintaining the IP. With cash flows for each discrete year in the RUL and a calculated residual value, the valuation analyst discounts these cash flows using an appropriate discount factor to the present value to determine what their value today. This becomes the IP's value before the valuation analyst applies any applicable value adjustments.

One important thing to note is that income may have different meanings based on the context. A valuation for damage analysis may consider income as pre-tax net cash flow whereas a valuation for investment purposes may consider income as after tax net cash flow. When comparing valuations from differing analysts based on the income approach, always ensure that the two valuations use the same income definition in their valuation development.

The Income Discount Factor

The income discount factor that the valuation analyst uses is, aside from the RUL, one of the largest value drivers. There is an inverse relationship between the discount rate and IP value. Higher discount factors lead to lower-value IP, and vice versa. This is desirable, as it mirrors classic risk/reward principles when determining an appropriate discount factor. Early stage IP, with little proven market power, commands a higher discount rate than a proven IP because the risk of the early stage IP generating economic income is higher than with proven IP. To get an example of the impact of the development stage on the discount factor, consider discount factors used by venture capitalists by development stage below:

Development Stage Discount Factor

Development Stage	Discount Factor
Start-up/ Idea	50%
First Stage/ Prototype	40%
Second Stage/ Commercialization	30%
Third Stage/ Expansion	25%

One misconception is to discount the IP's cash flows at the parent company's weighted average cost of capital (WACC). The discount factor should in fact be higher than parent company's WACC, because the parent company typically achieves portfolio diversification through other income sources. The lower discount factor for the parent reflects this diversification. IP typically doesn't have this income portfolio attribute—it is a single-source income model. In certain cases, it may be appropriate to use an increasing discount factor for cash flows in later years of the RUL, particularly if there is a risk that a competitor may design or work around the IP's protections. For example, if a valuation analyst discounts a

patent's income at 25% in the early years, it may be appropriate for the valuation analyst to use a 35% discount factor in the later years of the patent's RUL, particularly if the risk or probability of competitors designing around the patent is high.

The discount factor may also be higher for IP belonging to certain industries. IP that becomes technologically obsolete quickly may command a higher discount rate because the window with which to generate economic income is smaller than IP without this technological obsolescence risk.

Simulation Use

Once the valuation analyst builds an income valuation model, the analyst should capture the complex value driver interactions in the face of uncertain estimating assumptions using simulation modeling. This is important because by using simulation, the valuation analyst will not constrain the valuation model to any single-value predictions of key value drivers such as the IP's RUL, IP revenues or IP costs. A valuation analyst would program the valuation model to recalculate the valuation model repeatedly to create a distribution of outcomes that the valuation analyst can then analyze and interpret. For example, the valuation analyst performs 10,000 different possible value scenarios using simulation. With a sample size that large, the valuations that the model generates become statistically significant.

In complex situations that involve uncertainty, this methodology allows the valuation model to generate meaningful estimates that would otherwise be impossible to model using discrete methods such as best, expected, and worst case modeling. Do not rely on single-point valuation models to establish the value of IP using the income approach. Such practices may materially overstate or understate the IP's value and do not account properly for variability in the many value drivers.

12.5 Valuation Discounts

Once the valuation analyst determines a value opinion, generally other discount factors may apply. These discount factors reduce the IP's value. These discounts include the minority interest discount, the lack of marketability discount, key person discounts, and contractual discounts. These discounts are cumulative.

12.5.1 Minority Interest Discount

The minority discount applies when one sells a partial interest of the IP to another party. Unless the seller provides the buyer 51% ownership, the buyer generally does not have the power to change the direction or use of the IP. Therefore, those with majority control have more power to effect change in direction. Their ownership is thus worth more. Minority interests are generally worth only 65-80% of a majority owner's interests. Valuation analysts derive minority interest discounts for business valuations from the M&A market by studying the premium that acquiring companies pay for acquisition targets to achieve full-control of the stock. Valuation analysts use these discounts as a proxy for minority interests in IP because there is not an active market in standalone IP sales that provide the data necessary to determine a minority interest discount. One interesting side effect of these studies is that companies that overpay for an acquisition (i.e., the winner's curse), may upwardly bias the control premium, which also increases the minority interest discount, thereby understating the IP's value.

12.5.2 Illiquidity Discount

Unlike public companies, where it is easy to sell a share of stock on the open market, IP owners that purchase an interest in some IP are buying an interest that is very difficult to sell, particularly if it is a minority interest. This discount compensates the owner for purchasing an interest that is hard to sell to another party when the original owner no longer wants it. An illiquid interest is generally worth only 50-65% of a liquid share's value. Valuation analysts derive lack of marketability interest discounts for businesses from the IPO market by studying the increase in share price on the opening days of trading for a new issue stock versus the share price some weeks or months before public trading begins. Like the minority interest discount, these discounts for businesses serve as a proxy for the discounts as applied to IP. Also like the minority interest discount, there is a potential for an upward bias in this discount because investment-banking firms may intentionally under-price IPO stocks to generate a bigger first-day jump for their primary-offering subscribers.

12.5.3 Key Person Discount

Key person discounts are discounts to IP value to account for the risks of relying on any one person or set of people who are the primary value drivers for a given

piece of IP. It's simple to determine if a key person discount applies. If IP degradation, delays in commercialization, or other operational interruptions occur if a truck hits a person working with the IP, then a key person discount may be applicable. Such discounts may not apply given the IP type. For example, the use of a key person discount for a patent may be inappropriate because the patent describes the design and implementation entirely. There is no mystery for how to complete a product based on a patent. However, a key-person discount may apply to a trade secret if only a few individuals know a trade secret's details and exploitation strategies. The key person discount is a subjective measure and a valuation analyst will look to different organizational attributes to determine a reasonable discount factor, generally using the replacement method of the cost approach to establish such a discount. Such organizational attributes include the business' adaptability to change, the IP's complexity, company training/succession plans, capitalized key person insurance premiums, the industry expertise of the staff, rehiring costs, company reputation, and the centralized nature of the organization's decision-making process.

12.5.4 Contractual Discounts

Deal negotiators will forever think of creative ways to structure M&A transactions. Each transaction's structure may have an impact on the IP's value. For example, if a company licenses the rights to use IP in a given geographic region, that IP may be worth \$X. However, if there is a contractual restriction that forbids the licensee to use the IP in a certain industry, then this contractual restriction has a discounting value on the IP. The IP would be worth more if it were not for this restriction. In addition, there may also be cases where there are IP value premiums are appropriate to the licensee due to a contractual clause. Such cases may include clauses that grant the licensee additional profit rights or call or put options.

12.6 The Challenge of Valuing Intellectual Property Assets

Valuing IP assets requires that a company:

- (i) identify its IP assets, and

(ii) assign a justifiable value to the identified IP assets, both of which require careful consideration.

A company may possess various types of assets that qualify as IP. By its very nature, IP comprises intangible assets that are not as readily identifiable as a company's tangible assets (e.g., buildings, equipment, etc.). In some instances, IP rights are embodied in a granting document, such as an issued patent or a registered trademark. In those instances, the IP assets may be more easily identified by the company. For instance, companies are typically able to identify such IP assets as issued patents assigned to the company, registered trademarks owned by the company, and registered copyrights owned by the company. Also, IP rights that are licensed or purchased from a third-party are generally identifiable to the company because of the existence of a granting document (e.g., contract) between the company and the third-party. Other assets that may qualify as a company's IP may be easily overlooked.

Consider the following examples of potential IP assets that a company may possess:

- 1) information maintained in notebooks and/or stored on a computer by engineers or other employees,
- 2) a pending patent application assigned to the company,
- 3) an invention disclosure from an engineer to company decision-makers for consideration as to whether to pursue patent protection, and
- 4) proprietary software source code developed in-house.

Certain types of IP may not be embodied in a granting document. Indeed, certain types of intellectual property owned by a company may not even confer any enforceable rights. For instance, a pending patent application assigned to a company confers no enforceable rights to the company until the patent issues, if ever. Thus, the pending patent application is an asset representing a potentially enforceable right that may be conferred to the company in the future. Given that a pending patent application confers no enforceable rights, is the pending patent application an "asset" of the company? Most would likely agree that a company's pending patent application is an asset, even though it does not confer any enforceable rights. The pending patent application not only provides the company with the present value of being able to mark its products that include features encompassed by the patent application with "Patent Pending," but it also provides

the company with potentially enforceable rights in the future, should the patent issue. Further, if the company were to be acquired by another, some value would certainly be attributed to its pending patent applications as company "assets" in determining a fair purchase price for acquiring the company.

Consider now information that is maintained in a laboratory notebook by an engineer of the company. Often engineers record their thoughts in notebooks. Indeed, many companies encourage this practice because of the notebooks' evidentiary value should an issue of inventor ship later arise. The notebooks are generally considered company property and remain with the company if the engineer's employment is terminated. The notebook itself likely confers no enforceable rights to the company (although trade secrets may be described in the notebook). Typically, the officers of a company are not aware of the information contained in an engineer's notebook. Accordingly, while a potentially valuable invention may be described in the notebook, only the engineer who authored the notebook may be aware of the information included therein.

Thus, the question arises: is the engineer's laboratory notebook an "asset" of the company? If a company does not permit its employees to take information with them when they depart, it is likely because maintaining such information is of value to the company and may therefore qualify as an asset. However, valuing this type of asset is problematic because, as mentioned above, officers of the company may not even be aware of the information it includes. Further, if the company were to be acquired, no value may be attributed to the engineer's notebook in determining a fair purchase price for acquiring the company because the notebook's content may be largely unknown. Consequently, a company may possess a vast amount of IP, some of which is readily identifiable and others of which are difficult to identify. In such a situation, how can the company's officers be confident that they are aware of *all* of the company's IP assets?

One solution is to perform an IP audit. A comprehensive IP audit generally includes an evaluation of a company's assets to identify its IP assets that it possesses. For instance, an IP audit identifies such IP assets as the company's issued patents, registered trademarks, registered copyrights, and trade secrets. Such an audit also identifies IP assets acquired or licensed from third-parties. Further, an IP audit identifies IP possessed by the company that does not confer presently enforceable rights, such as pending patent and trademark applications and

inventions disclosed to the company's decision-making personnel for which a patent application has not been filed. The IP audit may further evaluate the company's process of collecting IP assets. For instance, a company may have procedures in place to encourage its employees to disclose their inventions to the company. As mentioned above, information included in an engineer's laboratory notebook may be unknown to the company's decision-makers, and thus procedures for encouraging engineers to disclose valuable information to the decision makers may be important for assuring that the company is aware of its potential IP assets. An IP audit may also include an evaluation of the procedures in place at the company for maintaining the company's IP assets. For example, most countries require companies to pay periodic fees to maintain patents in force. Similarly, intellectual property rights licensed from third-parties may require periodic payments to be made to the third-parties. Thus, an IP audit may evaluate the company's procedures for ensuring payments for maintaining the company's IP assets in force. Further, employee and consultant agreements may be evaluated to ensure that the IP developed for the company is owned by the company and to ensure that the company has safeguards in place to prevent unauthorized disclosure of proprietary information (e.g., trade secrets). Additionally, an IP audit may include an evaluation of the company's procedures for avoiding unauthorized use of the intellectual property rights of others. For example, the IP audit may include a review of the company's process for introducing new products and services, such as the company's procedures for assuring that valid intellectual property rights of others are not infringed by an introduced product or service.

Companies typically conduct annual audits of their financial status, and public companies include the auditor's statement of their financial condition in annual shareholder reports. Similarly, an annual IP audit is an advisable aspect of assessing the company's financial status. That is, an annual IP audit may serve to assure the company's officers that the company's IP assets have likely been identified for assessing the company's financial condition. Several texts that address various aspects of performing effective IP audits in greater detail are available. Once a company identifies its IP assets, it becomes desirable to assign a justifiable value to those assets. One study reported that while in 1978 only twenty percent of corporate assets were intangible assets, and eighty percent of corporate assets were tangible assets, by 1997 the relative value of tangible and intangible

assets had practically reversed, with seventy-three percent of corporate assets being intangible assets. Thus, for many companies, the valuation of their IP assets is a critical factor in determining their financial condition.

Valuing IP assets is often a difficult task because their true value may not be readily apparent. It is often desirable to tie the value of an IP asset to income directly attributable to that asset, if determinable. For instance, the value of a patent may be determined by the revenue stream derived from licensing the patent rights to others. However, is an unlicensed patent worthless? It does provide a negative right that is enforceable by the owner. The company has spent money acquiring this patent right and pays fees to maintain the patent right – so, can the company justify acquiring and maintaining a patent that it deems to be of no value? Of course, the value of an IP asset may not be recognized in income received by the company. Indeed, the full value of an IP asset is likely never recognized in income because much of the asset's value resides in the negative right to prevent others from doing something they would otherwise be permitted to do. Thus, a patent may have great value even if the company does not license the patent or enforce the patent against any third-party because the company possesses "the right" to prevent others from practicing the patented invention. For example, potential competitors may decide not to embark on a field encompassed by the company's patent rights. In such a situation, while the company may not recognize revenue by way of a license, it may achieve greater market share as a result of the patent deterring others from offering a competitive product or service. Further, a company's patent portfolio may serve as a defensive mechanism that makes third-parties cautious about enforcing their intellectual property rights against the company for fear of retaliation by the company with its patent portfolio. In this regard, the company's patent portfolio may have great value in allowing the company to proceed with its business undisturbed, without threats of infringement that might otherwise be raised by third-parties. Accordingly, the true value of intellectual property assets is generally difficult to measure, and even though accepted techniques are available for assigning a value to those assets (as discussed further below), the full value of intellectual property assets is likely not captured with those valuation techniques.

Valuing an IP asset is further complicated because such value is generally not stagnant. Rather, the value of an IP asset often changes over time. Consequently, a company should periodically (e.g., annually) re-assess the value of its IP assets.

12.7 Summary

An IP valuation process should be ongoing to recognize changes in the value of a company's IP asset. Recognizing the above difficulties in valuing intellectual property, economists have traditionally utilized at least one of the following methodologies to derive a value for an IP asset:

1) **Market Approach.** The Market Approach measures the present value of future benefits by obtaining a consensus of what others in the marketplace have judged the value to be. This approach is similar to how comparable properties are used in real estate valuations, wherein the IP asset is compared to similar IP assets of others and valued accordingly.

2) **Cost Approach.** The Cost Approach seeks to measure the future benefits of ownership by quantifying the amount of money that would be required to replace the future service capability of the subject property (i.e., "cost of replacement" of the IP asset). The assumption behind this approach is that the price of acquiring the IP asset is commensurate with the economic value of the service that the asset provides during its enforceable lifetime. While this approach is certainly not always accurate, it may average out over a relatively large portfolio of IP assets.

3) **Income Approach.** This approach focuses on the income-producing capability of the IP asset. The underlying theory is that the value of the IP asset can be measured by the present worth of the net economic benefit (cash receipts less cash outlays) to be received over the enforceable life of the asset.

While each of the above valuation techniques likely fail to capture the full value of an IP asset, its use should provide comfort to a company's officers that they have reasonably valued the company's IP assets in assessing the company's financial condition. As the reporting of a company's financial condition continues to be more closely scrutinized, the valuation of IP assets becomes increasingly important, particularly if much of the company's financial value resides in its IP assets.

12.8 Self Assessment Test

1. Why valuation of intellectual property assets is necessary? Also give the nature of intellectual property valuation.
2. What are the different methods by which intellectual property can be valued?
3. What types of valuation discount are provided? Describe.
4. What are the challenges of valuing intellectual property? Explain.

12.9 Further Readings

1. The Lesi Guide to Licensing Best Practices: Strategic Issues And Contemporary Realities (Robert Goldscheider Ed., 2002);
2. Smith, Gordon V. and Russell L. Parr, Intellectual Property: Valuation, Exploitation, and Infringement Damages, John Wiles & Sons Inc., New Jersey, 2005.
3. *Creating Value from Intellectual Assets*, Policy Brief, Organization for Economic Co-Operation and Development (OECD), 2007.

Unit 13

WIPO and Role of IPR in World Trade

Objectives:

After going through this unit, you should be able to understand emergence of two, i.e. WIPO and WTO, global governance regimes and the role of intellectual property rights in world trade.

Structure:

13.1 Introduction

13.2 The Evolution of Two Global Governance Regimes

13.2.1 The Law, Regulations and Rules of International Trade

13.2.2 The Law, Regulations and Rules of Intellectual Property Rights

13.3 Literature Review: Theory and Evidence

13.4 Intellectual Property Issues and Economic Indicators

13.5 The Post-TRIPS Intellectual Property Environment

13.6 Expected Trends Regarding Intellectual Property and Future Trade Agreements

13.7 Summary

13.8 Self Assessment Test

13.9 Further Readings

13.1 Introduction

Many of the rapid and unprecedented changes in intellectual property law and policy over the past two decades are due to their intersection with international trade and the numerous international trade agreements negotiated and brought into force during this period. This increased activity with respect to international trade agreements is partly the result of the explosion in cross-border exchanges of goods, services, capital and knowledge that has taken place since World War II. During this period, global trade transactions have grown at a rate that is at least twice as fast, in most years, as the increase in many countries' domestic output.

Another reason for the increased significance of intellectual property rights in international trade is that structural changes have taken place in all economies, albeit at different rates. In particular, knowledge — technology, ideas, methods and techniques — is quickly becoming society's most important economic asset. The growth of knowledge as a tradable asset, which takes many forms in its creation, dissemination and movement across borders, is now an established feature of all economies.

A third factor underlying this rapid evolution is that major countries that export intellectual property rights have, in response to their domestic business interests, pressured other countries to change their existing — sometimes very weak or non-existent — intellectual property rights-related policies, laws and enforcement procedures to accommodate the exporters' interests. They have often made the case that the country under pressure will also benefit economically from the changes being advocated.

Increased international trade activity, reflecting the growing convergence between global trade and intellectual property rights has been linked to the successful negotiation of the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS), in the mid-1990s, as part of the outcome of the multilateral Uruguay Round, a key component of the then newly created World Trade Organization (WTO). TRIPS was followed by the inclusion of intellectual property rights standards and enforcement obligations in many regional and bilateral trade agreements, and in stand-alone multilateral arrangements, such as the recently concluded Anti-Counterfeiting Trade Agreement (ACTA) involving nearly 40 countries.

The heightened policy interest in trade-related intellectual property rights is not due entirely to the increased level of trading activity. As the knowledge-driven economy has grown, new perceptions have arisen about the importance of innovation and creativity in society, and how it should best be promoted. Further, public opinion in many countries has become more concerned about issues such as the public commons; public health; the distribution of income; and the sources, nature and implications of economic growth on human well-being — all matters affected by the ownership and distribution of intellectual property rights.

Debate and discussion on the intersection of trade and intellectual property rights thus involves consideration of many variables — social, cultural, humanitarian,

political and even constitutional considerations are part of the equation — in addition to economic considerations. The perspective taken and the positions advanced with respect to intellectual property rights, particularly the relationship to international trade and related investment, will be influenced by whether the overriding preoccupation of the observer, policy maker or analyst is primarily economic, legal, cultural, social or political.

Among those who have joined in the debate or thought about the issues, two contending, overriding objectives have been salient: the desire to maximize the economic self-interest of a particular country, region, industry, sector, firm or individual through the development and use of intellectual property rights; or the desire to harness and utilize humankind's innovative and creative forces to improve the human condition, through conditions pertaining to granting and exercising intellectual property rights. The challenge has been, and remains, how to balance these often conflicting objectives within each domestic society and within the world community as a whole.

With economic activity and human well-being increasingly based on knowledge creation and innovation, and with some countries, firms and individuals having — or likely to have — more of this knowledge than others, the central question is how to ensure that everyone in the globally interconnected world gets access to this ever-increasing knowledge in reasonable time and at a reasonable cost, while simultaneously ensuring the continuation of innovation and creativity worldwide. Given the reality of globalization, how should individual countries and the community of nations proceed? What yardsticks or criteria should be used to assess how the trade and intellectual property regimes should evolve in areas where they intersect? And who or what organization will determine the ultimate balance between, on the one hand, the needs of the innovators and creators and, on the other, the needs of users across international boundaries?

This chapter attempts to address these questions based on a review of the economic theory and the available empirical evidence, as well as on the experience overseeing or participating in trade negotiations that have touched on these matters. It is not a study of intellectual property rights per se, as there are many such studies, but rather of trade-related intellectual property rights. As will become evident, the boundary between what is a "pure" intellectual property issue and what is a significantly trade-related one and, therefore, subject or related to

possible international trade negotiations, including enforceable rules, is vague and ever-shifting, especially as new technologies — new ideas, new public- and private-sector actors — and new ways of doing things evolve. In addition, the chapter sets forth a number of economic indicators that policy makers or negotiators might find relevant in determining which issues in this rapidly evolving area are important than others, from the standpoint of economic performance.

Following a brief review of the respective international governance regimes covering international trade and intellectual property respectively, the chapter will summarize and highlight the most relevant literature, the earliest dating back 60 years or more, as a body of ideas reflecting the principal perspectives put forth by a wide range of writers. The chapter will then examine the trade-related intellectual property issues most commonly negotiated in recent bilateral, regional, and multilateral trade agreements. The positions and/or interests of various countries will be briefly examined from an economic standpoint.

13.2 The Evolution of Two Global Governance Regimes

13.2.1 The Law, Regulations and Rules of International Trade

The exchange and movement of goods, services, ideas, technologies and people across borders has gone on from time immemorial; its composition, however, has changed over time, as has the means of delivery and the institutions and rules that govern this increasingly globalized commercial activity. Today, the export and import of finished goods and services is steadily being replaced by “trade in bits and pieces” — what may also be referred to as “trade in tasks” — via the global or regional value or supply chain, whereby the various functions of conceptualization, development, production, distribution and follow-up servicing of goods and services are becoming increasingly fragmented within or across national boundaries. Basic research is, more and more, being conducted in one or several countries; design, development, and commercialization is often done in another country or countries; raw materials and other resources used to produce goods are exploited in another; production is carried out in another; while assembly, distribution and after-service activity might well be undertaken in any number of different countries. As the world economy becomes ever more integrated, therefore, the concepts of exports and imports are less and less relevant.

The rules governing all this cross-border, increasingly fragmented activity — the regulatory framework that governments provide — are both domestic and international, the latter having been negotiated, modified and updated since World War II in various global, regional and bilateral international trade, investment, science and technology or other arrangements. From an international trade perspective, the centre piece of the global institutional regime is the Geneva-based WTO, which evolved from the General Agreement on Tariffs and Trade (GATT) in 1995, and comprises political (largely in the form of negotiations), legislative and judicial elements (the mandatory dispute settlement system, which distinguishes the WTO from other international economic governance regimes).

Importantly, not all legitimate cross-border commercial activities are covered by the WTO — some are covered, for example, by the Organization for Economic Co-operation and Development (OECD) Codes of Conduct or guidelines. In addition, much cross-border activity remains outside negotiated international trade rules, subject to private contract law or even to widely accepted norms of expected behavior — the so-called “socialization” effect, due to ongoing commercial interchange between and among individuals, businesses or nations. Further, there are some 30 countries that are not yet WTO members; for these non-members, the lengthy process required for “accession” can take as long as two decades.

The now-155 WTO member states continue to try periodically to expand coverage of global trade arrangements through concerted, comprehensive “rounds” of negotiations — the current effort, the Doha Development Round, is the seventh such round since 1947. This latest set of multilateral or global trade negotiations, dating from November 2001, has effectively been at an impasse since July 2008. Some participants and observers now believe that the all-inclusive, single undertaking approach to global trade negotiations (“nothing is agreed until everything is agreed”) characteristic of the earlier, successful Uruguay Round (1986–1994) might not be the most effective method of updating the rules and practices of the worldwide trade regime.

Underpinning the WTO and the now almost 300 regional or bilateral trade agreements is the fact that the bulk of the trade rules agreed upon, implemented and enforced through a formal, mandatory dispute resolution process are primarily related to removing or eliminating restrictions at the border on a transparent and nondiscriminatory basis. At the core of existing international trade agreements,

therefore, is the fact that trade rules are primarily directed at what governments should *not* do with respect to goods, services, technology and ideas that cross borders. The introduction of intellectual property into this mix for the first time in the mid-1990s — both in the North American Free Trade Agreement (NAFTA) and almost simultaneously as a trade-related intellectual property chapter in the multilateral Uruguay Round — was thus revolutionary and game-changing. These two agreements set out in detail the intellectual property standards and enforcement mechanisms that member governments had to adopt domestically as legal obligations and component elements of the overall trade agreement. Not only was an entire regime of domestic, “inside-the-border” intellectual property rights-related rules, regulations and enforcement procedures introduced into a major trade agreement for the first time, but also these standards and enforcement provisions were to be harmonized at a high level, irrespective of the signing member’s level of economic, social or cultural development, and of their technical or institutional capacity to implement their obligations.

13.2.2 The Law, Regulations and Rules of Intellectual Property Rights

In contrast to international trade agreements, standards and enforcement procedures pertaining to intellectual property rights date back much farther. While domestic laws to protect private property begin in 1474 with the Venetian Statute and in England from the very early eighteenth century, they covered primarily printed works. Some years later, the Paris Convention on the Protection of Industrial Property, concluded in 1883, was the first international instrument to cover patents on industrial innovations. The Berne Convention for the Protection of Literary and Artistic Works was established three years later to cover copyright, and the Madrid Agreement Concerning the International Registration of Marks, dealing with trademarks, was concluded five years later. Even today, the subject matter of these three agreements covers the principal categories of intellectual property, although industrial designs, geographical indications (GIs), computer circuit topographies and plant breeders’ rights, as well as traditional knowledge, access to genetic resources and trade secrets, have become increasingly important as stand-alone categories in the past two decades. The three late-nineteenth century

agreements noted above became part of a larger umbrella organization, the Bureaus Internationals Reruns pour la Protection de la Propriety Intellectually (BIRPI), in 1893; in the post-World War II era this evolved into the Geneva-based World Intellectual Property Organization (WIPO), which became a formal part of the United Nations system in 1974. The focus of WIPO, and BIRPI before it, is intellectual property standards, as high and as harmonized as the dominant members of the organization can agree upon. In contrast to the strong consultative and judicial provisions accompanying mutually agreed upon rules in the international trade system, however, enforcement provisions in WIPO remain non-existent for all practical purposes.

Whereas the principle of non-discrimination between domestic and foreign goods and services — a core element of global international trade arrangements — has always been part of international intellectual property conventions, international trade concerns and issues have not been central to the ongoing operation of WIPO. To the extent that trade has been involved, enforcement of intellectual property rights standards and norms has taken place at national borders with measures such as Section 337 of the United States Tariff Act of 1930 and Section 301 of the United States Trade Act of 1974. Using the threat of trade sanctions, Section 301 continues to be instrumental in coercing agreements on US-preferred intellectual property standards and enforcement measures in bilateral trade arrangements, and was used, for example, to induce Brazil and India to agree to TRIPS as part of the Uruguay Round outcome some 18 years ago. Successive US administrations' highly discriminatory and aggressive advocacy of higher intellectual property standards and enforcement provisions, echoed by the European Union (EU), Japan and Switzerland, have helped set the stage for intellectual property rights now becoming an integral part of various trade agreements.

13.3 Literature Review: Theory and Evidence

Good policy development in complex areas, in particular those related to economics, is based on both theory and evidence. This is especially the case with trade-related intellectual property, given the long history of domestically driven intellectual property rights development and the dominance of the legal profession in promoting and enforcing its standards as a civil or criminal matter. The legal perspective on these matters focuses particularly on the property, rather than on the

policy, aspects — issues, for example, of ownership, control and legitimate, as well as illegitimate, access to information. Economics, on the other hand, focuses predominantly on the policy aspects of intellectual property rights, offering the possibility that potential gains and losses that result from any changes in policy can and should be assessed qualitatively and, when data permits, quantitatively. Economics can also help establish causality where it exists, as well as patterns of probability. There are no absolutes in economics; the question is not whether domestic or international legal obligations are being met, but whether the benefits to the individual creator/innovator and ultimately to society outweigh the costs to society in terms of potentially higher costs, lower output, less innovation and creativity; or reduced/delayed access by users because of the exclusive intellectual property monopoly rights granted by government — even if, except for trademarks and GIs, these are time-limited.

In economic theory, the restriction-free movement of goods, services, technology, ideas and people — in short, free or open trade — is considered optimal. Specializing in activities that a nation as a whole does best, and then trading that output for goods and services that are not developed, produced or distributed as efficiently in that country, leads to the greatest national welfare and human well-being according to the broad mainstream of economists. Imposing intellectual property standards or other domestic regulations such as health and safety standards, to the extent that they reduce the volume of trade, is thus seen to inhibit trade and to be, in essence, anti-competitive. In principle, therefore, most economists oppose the insertion of intellectual property standards and procedures in market-opening trade agreements. Some trade economists believe that the introduction of such standards and enforcement procedures into trade agreements was, and remains, wrong, particularly in the WTO — whose members are at many different stages of development — and has tilted the balance of advantage to producers and creators away from consumers, particularly from consumers in poorer countries. They assert that current trade agreements that include intellectual property rights have created a “system imbalance” that will need to be rectified in the future.

Other theoretical work, however, has been more nuanced. It has been argued that weak or non-existent intellectual property standards or enforcement measures can have the effect of a non-tariff trade measure, resulting in less international trade

than would otherwise be the case — through a complex mix of reduced direct foreign investment, less technological transfer, fewer joint ventures or licensing agreements, and lower demand. Further, the proponents of including intellectual property in trade agreements argue that strong and predictable intellectual property laws and practices in one jurisdiction must not be undercut by weaker standards or lesser enforcement procedures in others. This is necessary to ensure that the collective, worldwide interest in ever-increasing innovation, creativity and improved well-being is sustained.

A review of the literature suggests that the impact of intellectual property on innovation, creativity, international trade and on the economy more generally, depends on the unique circumstances and the particular economic sector, as well as on the specific intellectual property rights measure, among other variables. Additional influencing factors include a country's innovative potential, such as its adaptive capacity, the educational level of its workforce, the structure and funding of research and development (R&D), the management of assets and the institutions involved.

A direct link between trade and intellectual property rights appears to be even weaker when examined on empirical rather than on theoretical grounds. Yet some support may exist for an indirect link through the impact of patents in a few clearly identifiable sectors, copyright in several sectors and, to a lesser extent, trademarks. For example, an empirical tie can be established between strengthened patent protection and innovation in the pharmaceutical and chemical sectors. The empirical link between trade and intellectual property, particularly with regard to patents, is also evident in the newer fields of nanotechnology and genetic engineering, and in the "older" non-electrical machinery, transportation, office equipment and metals sectors. In these and other sectors, however, factors such as conventional trade and investment policies, the tax system, production incentives (subsidies), and competition laws and practices — which can all be shown to influence the rate of knowledge creation and its adaptation to product design and production technologies — appear to be more important than intellectual property rights in stimulating innovation and commercialization; thus, the quality and, perhaps, even the volume and value of goods and services traded.

The broader economic framework policies noted above are probably even more important than intellectual property rights with respect to copyright, especially in

the current era of intensifying information and knowledge development. Since the link between copyright standards and creativity appears to be empirically weak, support for copyright protection — whether of a qualitative or quantitative nature — needs to be based far more on desired outcomes relating to income distribution and on social and cultural objectives than on purely economic factors. Indeed, as information industries evolve, standard copyright provisions might become an impediment to innovation and creativity, particularly if digital locks restrict access to previous software developments or if the price of copyrighted products becomes too high for consumers.

Finally, the relationship between trademarks and, by extension, GIs — categories of intellectual property rights that assure consumers of the authenticity and safety of goods and services in the marketplace through reputation and trust — to international trade has not been proved empirically. While loss of income to the trademark or GI owner and questions of fairness come into play, there is limited economic justification for this link in terms of efficiency and competitiveness, especially since there is no time limit on the market exclusivity afforded by the grant of a trademark and/or GIs, as previously noted.

Notwithstanding the foregoing considerations, a country might have compelling economic reasons to consider domestic intellectual property rights changes, whether or not a direct, or even an indirect, link can be made to the volume or nature of international trade flows. These economic reasons have, in the past, related mainly to patents, but increasingly they also apply to “new age” copyright. While strengthened intellectual property measures might or might not increase exports or intermediate goods or services imports, a well-functioning intellectual property regime could encourage more high technology focused investment, and, in particular, more imports of now-protected goods and services, as regional and global supply chains evolve. Importantly, combined with the other policy measures noted above, they might lead to a greater number of joint ventures and/or more licensing agreements in the country in question, thereby contributing to economy wide productivity and income growth.

Researchers have used various economic indicators to infer where intellectual property laws might be changed to strengthen economies or the international economic system as a whole. Metrics used by a number of authors include: investment and/or R&D expenditures as a percentage of GDP; business enterprise

expenditures on R&D; higher education expenditures on R&D; government expenditures on R&D; numbers of R&D personnel; the balance of trade or of income derived from royalties and other payments; the number of patent filings; and the volume of copyright or trademark registrations held either by residents or non-residents (although copyrights do not need to be registered). None of these metrics, however, are particularly useful or have economic merit on their own; they appear to lack correlation and are not persuasive in establishing causality in terms of the desired outcome of more innovation or creativity than might otherwise be the case. The most that can be said is that, in commercial sectors driven by research, carefully circumscribed intellectual property rights protection can be important if it is accompanied by other economic policies and sound administrative practices; in other sectors, income distribution and fairness considerations appear to be more important than the innovation or creativity engendered by the time-limited market exclusivity granted through intellectual property rights.

13.4 Intellectual Property Issues and Economic Indicators

As discussed above, there are few unambiguous economic indicators that conclusively measure trade-related intellectual property. One indicator employed at times by politicians, the media and business groups is that of a national or sector trade balance. Most economists have rejected this measure on the grounds that it is purely an accounting phenomenon and, therefore, not appropriate or meaningful for policy purposes, where causality is the issue, not static balances. The same holds true when trying to measure the success of intellectual property by comparing the number of patent filings or copyright registrations in one country with others.

Even where causality can be shown, the economic impact of augmented patent protection is ambiguous at best; probably the best overview or comprehensive study done to date, the OECD's Science and Technology Indicators Database project, provides only limited evidence that patent protection might have some differential impact on invention by broadly defined industry-sector groupings. Communication equipment, aircraft and motor vehicles, office and computer equipment, as well as chemicals, pharmaceuticals and metals appear in this study to be more directly affected by intellectual property provisions than, for example, consumer products or the wood and furniture sector. The economic analysis by the

OECD and individual researchers is not calibrated finely enough, however, to demonstrate whether differential patent standards, including duration, should be adopted by individual countries and made part of international agreements in the future.

The economic impact of copyright provisions is even less clear; economic analysis is not even able to tell if increased or lowered copyright provisions will lead to the publication of more or fewer books; the development of more or fewer websites; the creation of new media; the production of new films and videos; the development of new software; or if pro- or anti-competitive business practices will be unleashed. Nevertheless, to the extent that income distribution is affected by the strength or weakness of copyright provisions and that the pattern of income distribution can be considered a matter of economic rather than of social policy, a case can be made that there is at least some economic impact arising from copyright protection, even only if at the margins.

As with patent and copyright laws, trademark and related GI provisions can also have an income distribution effect: shifting commercial revenue from one producer to another; from consumers to intellectual property owners; or from one country to another. The Parma ham dispute between Canada and the European Union (Italy) is a clear example of what is at stake and what economic analysis can or cannot tell us. If a distinction is not made between Italian-sourced Parma ham and Parma ham of Canadian origin, will consumer confusion or uncertainty over what is Parma ham, for example, result in less supply of this ham in the international, Canadian or Italian markets than would otherwise be the case? If the GI were changed to cover only ham made in the Parma region of Italy, how would existing Canadian producers of the product, or Canadian consumers, fare in terms of price, availability and quality? And how much better off would the Italian producers of Parma ham be? These micro-issues involving GIs require more detailed research, both to inform policy and to make changes, on the basis of sound analysis, over and above the highly political factors that come into play on the issue, particularly in recent years.

Overall, should the worldwide supply of innovative, knowledge-intensive goods and services be insufficient, the solution could well be increased intellectual property rights protection, involving both standards and enforcement, among other economic policy measures. But findings from the extensive literature and from

current practice suggest that structural factors affecting the potential supply of new and improved goods and services could be as, or more important, and have a much more direct economic impact, than strengthened intellectual property rights. These other factors include: the degree of openness of any given economy; the amount of competition in each economy and in the world generally; tax policies; the quality and quantity of labour; the structure and funding of R&D; the existence of strong administrative and judicial institutions to support the granting and enforcement of intellectual property rights; and, importantly, the willingness and capacity of each society to create, adapt and absorb new ideas, technologies, cultural influences and techniques. A well-modulated framework of policies, laws, regulations and enforcement provisions will be a necessary, although not sufficient, element of this broader policy package to keep any given economy at the leading edge.

13.5 The Post-TRIPS Intellectual Property Environment

Since the implementation of the TRIPS chapter as part of the Uruguay Round outcome in 1995, there has been much activity, but not much forward movement, in trade-related intellectual property rule making at the multilateral level. Perhaps the most important development in terms of standards has been the 2003 Doha Declaration on the TRIPS Agreement and Public Health. Under this exception, negotiated with great difficulty and used only once by a single country to date (Canada in 2005), domestic patent provisions in any WTO member country can be amended to allow generic pharmaceutical companies to obtain compulsory licenses to manufacture and sell medicines to least-developed countries facing public health crises in the three carefully defined and circumscribed medical categories of HIV/AIDs, malaria and tuberculosis.

More recently, in response to "theft" and "piracy" concerns and the desire of some countries to bypass the WTO, where negotiated outcomes have been slow or non-existent, tougher standards and, more importantly, stronger enforcement and coordination mechanisms to combat counterfeiting were agreed to in negotiations that led to the ACTA, concluded in October 2010. This plurilateral initiative involved some 40 countries, including all 27 EU member states, Australia, Canada, Japan, Korea, Mexico, Morocco, New Zealand, Singapore, Switzerland and the United States, although to date only 20 countries have passed the necessary legislation. Separately, several countries have launched dispute settlement actions

involving intellectual property, or threatened to do so, in recent years. The most significant of these actions have been brought against China by the United States for weak copyright and trademark standards, and in particular, for ineffective civil, customs and criminal enforcement of intellectual property rules. The results of these judicial actions have been mixed, with dispute panels tending overall to insist on higher copyright standards and better enforcement by China in meeting its WTO obligations.

As well, the United States and the European Union have insisted on including "TRIPS-plus" provisions, such as lengthened patent data requirements, strengthened copyright provisions and expanded coverage for GIs in new regional and bilateral trade agreements to which they are a party.

The sole additional initiative in recent years concerns intellectual property standards relating to aboriginal or folkloric material (traditional knowledge). These cultural and social aspects of intellectual property rights have evoked interest from civil society and non-governmental organizations and have involved increasingly the United Nations Educational, Scientific and Cultural Organization (UNESCO). One outcome of this international activity was the UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions completed in 2005.

The "Development Agenda" proposed as part of the reform process underway in WIPO could have a major impact on intellectual property standards in the future. In essence, "the one-size fits all" or "the higher the better" approach to intellectual property standards is increasingly at variance with WIPO's Development Agenda. The large, and progressively more influential, emerging economies such as Brazil, China and India, with rapidly developing high-tech sectors, are becoming less inclined to support comprehensive and harmonized intellectual property standards at the levels favoured by the United States, the European Union and other developed countries. Such standards are not, in any case, easily enforceable in low-income countries.

There are some initiatives, treaties and conventions that are less directly trade-related, but nonetheless, highly relevant to the movement of intellectual property across borders that are either underway or have been completed in recent years. These include the WIPO Internet Treaties (1996), the Internet Corporation for Assigned Names and Numbers ongoing initiative to develop a Uniform Domain-

Name Dispute-Resolution Policy and the Nagoya Protocol to the Convention on Biological Diversity. In addition, serious discussions are underway about a new WIPO Substantive Patent Law Treaty, which could allow the patenting of biomedicines, genetic resources and related elements, and extend exclusive data protection to the pharmaceutical and, perhaps, to other sectors. There is, as well, increasing pressure from private sector interests in developed countries, supported by their governments, to extend copyright terms to 75 years from 50 years, to introduce a stronger “notice and takedown” system targeted at internet service providers, and for technological protection measures or “digital locks” to curtail unauthorized copying, distribution, performance and display of content. Many users, such as libraries, universities and some in the literary community, have objected strongly to these proposed and possible future restrictions. To deal with the problems that have arisen, they advocate broader exemptions to copyright rules, such as expanded fair dealing or fair use provisions, aimed at ensuring a wider diffusion of ideas and knowledge without the threat of expensive litigation or restrictions on interoperability.

13.6 Expected Trends Regarding Intellectual Property and Future Trade Agreements

Putting aside more instances of intensive and highly politicized activity under the 2003 TRIPS Agreement on Public Health, very little change to intellectual property rights is to be expected under the aegis of the WTO for the foreseeable future. The WTO agenda is full to overflowing, and the political will to advance new rules in any area of trade remains wanting at the moment. “Old” issues such as agriculture and non-agricultural market access, technical barriers to trade, phyto-sanitary measures, trade facilitation and aid for trade — all part of the Doha Development Round — are to intents and purposes shelved or will need inclusion in new trade liberalization initiatives either within the fold of the WTO or outside it. New issues that the world must tackle over the coming decade, within or outside the WTO, include business services, regulatory alignment, further trade facilitation, trade-related climate change (carbon taxes and permit trading), trade and economic development, expanded aspects of investment and, perhaps, the

beginning steps towards international competition law. A full trade agenda, including the old and the new, lies ahead.

Outside WTO-based multilateral or bilateral discussions, it is clear that trade-related intellectual property activity, possibly unrelated to trade rules, will continue in other contexts in the near and medium term, given private-sector pressures and the logic of the globalized knowledge-based, networked world economy. The successful initiative by a like-minded bloc of countries resulting in tougher standards and enforcement through the Anti-Counterfeiting Treaty, operating outside the WTO, has already been noted. There are likely to be other such ad hoc initiatives.

The United States can be expected to continue leaning on its negotiating partners to obtain additional, stronger or longer intellectual property protection (especially in the copyright area) and better enforcement through new bilateral trade agreements. The European Union will also sustain the pressure on its trading partners in selected areas of copyright, such as: music, films and videos/DVDs; GIs; and the protection of patent data for longer periods of time. Japan, another traditional intellectual property "hawk," but never up-front as a *demandeur* in any international economic issue area, will continue to follow the US and EU leads, supporting stronger patent and trademark norms where they arise, although not aggressively advocating them.

Reflecting global power shifts and the importance of trade-related investment and licensing, Korea, Chinese Taipei (Taiwan), Brazil, India and, more and more, China and several Central and East European nations, will likely increase their interest in trade-related intellectual property matters, in WIPO and elsewhere, as their economies take on the characteristics of the more industrialized economies. Conversely, the tendency of developed economy exporters such as the United States, the European Union, Japan and Switzerland to push over time for stronger intellectual property rights might well weaken as these currently dominant exporters of intellectual property take measures to protect the interests of their established industrialized sectors against the new high-tech competitors.

13.7 Summary

It is a new era for trade-related intellectual property. The world has advanced; it will not shift backwards — intellectual property rights will remain part of

international trade agreements, but varying standards combined with improved and less discriminatory enforcement will characterize future global activity in this area. This changed approach will be more complex, more nuanced, less absolutist, more political, more cooperative and less frequently rules-based than it has been over the past two decades. This transformation in approach to trade-related intellectual property rights reflects the evolution of social, cultural and political mores and attitudes, as well as a more finely tuned understanding of the relationships among innovation, creation, and wider, more efficient, dissemination of intellectual property.

Increasingly, health, education, heritage and the global commons, including environmental considerations, are concerns in the context of changing demographics and shifting public opinion; new ways to involve broad publics through consultations, round tables, discussions, focus groups and social media will enhance, and at times, perhaps overtake legislative options. It is also likely that at the government-to-government or governance levels, increased cooperation and consultation may well supplement treaty making, particularly as more non-governmental actors and stakeholders become involved in this significant area of public policy. The movement of legitimate goods, services, capital, ideas and skilled persons will, undoubtedly, intensify as the world continues to emerge, slowly and fitfully, from the Great Recession of 2008-2009 and resumes its process of integration.

There have been extraordinary changes in intellectual property law and policy over the last 20 years, many as the result of their intersection with international trade and the numerous international trade agreements brought into force during this period. The increase in cross-border exchanges of goods, services, capital and knowledge is one reason for this shift; structural changes in all economies — with knowledge emerging as society's most important tradable economic asset — are another. Underlying this activity are changes to intellectual property rights laws and policies. Since economic activity and human well-being are increasingly based on knowledge creation and innovation, ensuring that everyone in the globally connected world has equal access to this knowledge is a central issue.

The trade related intellectual property issues most commonly negotiated in recent bilateral, regional, pluri-lateral and multilateral trade agreements are also considered. It can be concluded that intellectual property rights will remain a part

of international trade agreements in the future, but that global activity in this area will likely be characterized by varying standards and improved enforcement, reflecting evolution in social, cultural and political attitudes, and a deeper understanding of the relationships among innovation, creation and the wider, more efficient distribution of intellectual property.

13.8 Self Assessment Test

1. Discuss the evolution of two global governance regimes.
2. Do the intellectual property rights have an important role to play in world trade? Give your answers in the light of literature review.
3. What are the issues and economic indicators regarding the intellectual property rights?
4. Describe the changes in role of intellectual property rights in world trade environment post-TRIPS.
5. What is the future of intellectual property rights in world trade and explain the expected trends regarding it?

13.9 Further Readings

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2. Bhagwati, J. (2004). *In Defense of Globalization*. Oxford University Press.
3. Commission on Intellectual Property Rights (2002). *Integrating Intellectual Property Rights and Development Policy*.

Unit 14

The Relationship of WIPO and WTO

Objectives:

After going through this unit, you should be able to understand the relationship of WIPO and WTO.

Structure:

- 14.1 Introduction
 - 14.2 Reciprocal Linkage Bargains and the Trade Origins of Parallel IP Regimes
 - 14.2.1 *The Insularity of WIPO and the Primacy of IP Protection*
 - 14.2.2 *The WTO is not a Clear Institutional Preference*
 - 14.3 Hierarchy and the New Global IP Institutional Apparatus
 - 14.3.1 *WIPO in the Context of Global Governance by International Organizations*
 - 14.3.2 *Institutional Competitive Advantage*
 - 14.3.3 *Form and Function in the WIPO and WTO Agreement*
 - 14.3.4 *Models of WIPO and WTO Cooperation*
 - 14.3.5 *The Persistence of Linkage and the Strategic Use of the WTO*
 - 14.4 Shared Governance as a Hallmark of Future IP Norm-Setting
 - 14.5 Norms and Norm-Setting Capacity in the WTO
 - 14.6 Summary
 - 14.7 Self Assessment Test
 - 14.8 Further Readings
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14.1 Introduction

The role of the World Trade Organization (WTO) in the public international legal order continues to generate significant attention, particularly with regard to the effects of WTO action (or inaction) in areas over which the Organization has no formal authority, but on which its activities have significant normative and political consequences. Examination of the WTO's ascendancy as an international organization usually has taken place within the context of trade linkage debates, either in efforts to delineate the appropriate scope of WTO jurisdiction or in

explicit attempts to harness its politico-legal power to advance norms that otherwise lack a powerful institutional home or international structure to encourage compliance by states. Because the jurisdictional contour of the WTO is embedded in a broader global framework in which competing social goals must be reconciled, the enforcement power of the WTO in particular has attracted intense scrutiny for its potential to promote objectives and influence state behavior in matters that are ostensibly far removed from the world of transactions in goods and services with which trade rules are to be (at least in theory) preoccupied.

Demands for WTO accountability to, or accommodation of, non-WTO obligations are also sometimes framed as concern over the prospect of norm conflicts due to the activities of multiple actors operating within the same policy space. The argument generally is that the WTO, with its capacity for strategic linkage bargains, has the constitutional capacity and, perhaps, mandate to internalize the negative trade-offs associated with the free trade regime by recognizing the legal obligations of states to, for example, protect the environment, promote fair labor standards, protect human rights or secure other human welfare goals. Thus, claims for norm accommodation in the WTO reflect, at least partially, a legal argument that the trade system must be constrained by the obligations arising from other international law regimes, and that the welfare objectives of free trade should cohere with the social goals that more directly animate other multilateral instruments.

To minimize conflicts among disparate legal regimes, scholarly attention has been directed at the importance of managing the inter-dependency that develops when institutional allocations of responsibility overlap. Such overlaps could be the unavoidable result of the proliferation of specialized bureaucracies that autonomously expand their specific mandates in response to the complexity and transnational nature of global problems. At other times, however, shared institutional oversight of a subject matter has been the deliberate design of states, such as in the case of intellectual property (IP), which was incorporated into the trade regime through the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). With specific regard to TRIPS, a more nuanced form of inter-dependency has emerged from the strategic behavior

of states seeking to exploit the non-hierarchical structure of the international community by proposing norms in alternative fora specifically to undermine, if not, upend TRIPS obligations. Regardless of the underlying basis, however, scholars and commentators have encouraged stronger institutional coordination among international organizations as one way to overcome institutional isolation and to facilitate effective fulfillment of related mandates. The emphasis on coordination characteristically presumes equality among the relevant international organizations.

14.2 Reciprocal Linkage Bargains and the Trade Origins of Parallel IP Regimes

14.2.1 The Insularity of WIPO and the Primacy of IP Protection

WIPO's modern rôle in the creation of harmonized global IP rules is well known, as is its administrative management of the entire global IP infrastructure. Other newer international organizations have participated in IP related norm-setting and norm-influencing activities and several continue to do so, including some UN agencies. Until the emergence of the WTO, however, such discrete excursions by other institutions into the global IP architecture have always been with deference to WIPO's IP standard-setting activities, and in some cases, to strengthen and buy into WIPO's institutional ideology with respect to the importance of IP protection for economic well-being. Thus, despite the linkages between IP and other issue areas reflected in institutional mandates over culture, science, agriculture, biodiversity or health, WIPO's exclusive responsibility for global IP norms has only meant that non-conforming normative considerations could be treated as irrelevant, subservient or subversive. Such norms could not supplant the primacy of the model that privileged a singular utility of the IP system over all other possible welfare considerations.

WIPO's principal responsibility, as defined by its charter, is to 'promote the protection of intellectual property' throughout the world. All of WIPO's functions are designed with this sole objective in mind and its collaborative engagement with other international organizations is explicitly organized around the protection of IP

on terms determined by WIPO. Indeed, no attention is given in WIPO's founding institutional documents for the purpose, context or aspirations of what a global IP system should look like, or what objectives should be pursued in an integrated global economic system. Not surprisingly, then, the WTO TRIPS Agreement, which was based on the two premier WIPO treaties, has been the subject of intense debate *precisely* because of its failure to reflect broader principles associated with the welfare goals that animate most national IP systems. Further, in a manner consistent with the treatment of some social concerns in the previous GATT system, the WTO TRIPS Agreement is, at least facially, committed primarily to an absolutist vision of 'free-IP' (analogous to free trade for rights holders), with the most grudging derogations emerging primarily from the ashes of transnational battles involving the role of IP regulation in promoting global public welfare.

Given the WTO's governance role over international economic affairs, the impulse for shared governance with WIPO for norm-setting in all IP issues is strong. Indeed, as earlier mentioned, WIPO has embarked on an auspicious new Development Agenda perhaps signaling a new institutional orientation in response to demands spanning over half-century that global IP regulation must be sized to fit the priorities of less-industrialized countries, even if such regulation does not ultimately reflect their socio-cultural framework. Recently, WIPO also advertised new high-level positions to address IP issues relating to global challenges and to provide an empirical basis for, *inter alia*, probabilistic measures of IP on economic growth.

But the question of institutional choice for global IP norm development is no longer merely (or even principally) about the role of IP in economic growth. Just as vital as the traditional North-South tensions over the global IP system is the emergence of a range of new issues that compel a new institutional recipe for meeting the demands of a global environment. It is an environment suffused with new forms of digitally inspired creative endeavors, cross-cultural innovation collaborations, scientific databases and the emergence of highly sophisticated research tools, all affected to some degree by the elaboration of global IP rules. Added to this rich and promising global innovation frontier are the pressing issues of public health, the risks and promise of agricultural biotechnology and the challenge of climate change. Undoubtedly, institutional coordination and collaboration will play an important role in efforts to address these critical global

issues and to more precisely manage increasingly scarce political and economic resources. Nowhere has this been more apparent than in the critical work of the World Health Organization (WHO) with respect to mobilizing efforts between WIPO, the WTO and other agencies, directed at normatively sensitive and practically oriented solutions to address global public health needs with full awareness of the IP constraints in place.

Nonetheless, institutional capacity for strategic bargains, not coordination, should take precedence in the development of future global IP norms intended to guide the formulation of state and international policies required to secure the welfare interests of global citizens. As already established, in the context of WIPO's history, institutional coordination was an explicit means to legitimize and consolidate WIPO's claim to an exclusive mandate for global IP norm setting. WIPO used institutional coordination with particular effectiveness when confronted with the emergence of new international organizations, particularly the organs of the UN, whose mandates explicitly included social and economic welfare considerations. WIPO's global IP norms became increasingly entrenched in an economic theory devoid of such concerns at precisely the same period in which international institutions were being consciously designed to respond to the demands and interests of developing countries and even as a robust doctrine of state accountability for the welfare of its citizens was codified through the development of international human rights law. Throughout these fundamental shifts in the international legal system, IP norms and the treaties negotiated in WIPO remained largely insulated from demands for a socially and culturally relevant normative IP framework.

14.2.2 The WTO is not a Clear Institutional Preference

A claim that the WTO is better suited to develop IP norms more meaningfully responsive to an array of new global challenges (for which IP rules constitute only a partial response) is legally grounded in the preambles to the TRIPS Agreement and the WTO Charter. Both documents recognize social and economic growth (or 'development') as an overarching instrumental purpose underlying the international economic system. Yet, despite the legal integration of IP in the WTO system, it is no forgone conclusion that the WTO should take preeminence in the development of IP norms. Neither the history of global IP norm creation, the way

in which IP issues were handled within the previous GATT framework, institutional expertise, the negotiating history of the Uruguay Round or even the substantive text of the TRIPS Agreement provides strong support for the WTO's role in IP norm creation beyond the dispute settlement arena. Rather, a number of facts and organizational design elements suggest a far less equivocal choice of institutional prerogative for future IP norms.

First, the IP work in GATT that presaged the TRIPS Agreement clearly noted the relative technical expertise of WIPO, as did other international organizations addressing IP-related issues within their discrete mandates. States could not agree that GATT was the appropriate forum to address a limited range of trade-related IP concerns, not even the most obvious problem, namely trade in counterfeit goods. Second, the TRIPS Agreement incorporated the substantive IP norms developed by WIPO, but also embraced new subjects; it enhanced and expanded (in some cases significantly) existing norms, while also specifically excluding some significant principles. Third, the Agreement established a new institutional mechanism to monitor the implementation of agreed-upon obligations, including those incorporated from earlier WIPO treaties, but it is WIPO (and only WIPO) that has been explicitly mandated to 'promote the protection of intellectual property throughout the world through cooperation among States'. Fourth, WIPO and the WTO entered into a collaborative agreement in which core WIPO functions and activities were made indispensable to the work of the WTO TRIPS Council and WTO Secretariat, but collaboration in the progressive development of IP norms is not addressed in the agreement. Finally, TRIPS provides an enforcement mechanism complete with an array of remedies which member states must make available to IP rights holders, but WIPO treaties are silent on the issue of remedies and WIPO itself has no enforcement power. Although WIPO's role remained an important consideration throughout the TRIPS negotiations, there is no question that its normative and administrative dominance has been fundamentally altered by the emergence of the WTO.

14.3 Hierarchy and the New Global IP Institutional Apparatus

14.3.1 WIPO in the Context of Global Governance by International Organizations

The once clear vision of an international legal order dominated by sovereign states whose interests, priorities and actions serve as the sole locus of power and legal authority over global affairs has dimmed significantly in light of a compound set of issues that demand coordinated and often repeated intervention and management across multiple geopolitical boundaries, organizational mandates and subject matter disciplines. The inevitability of shared governance among a diverse and large number of actors—hierarchy—to address the demand for international cooperation has thus become a critical feature of the global era.

The de-centering of states in the international legal order and the recognition of multiple new actors have not, however, eclipsed the prominence, proliferation and power of international organizations. These organizations constitute critical entry points for non-traditional actors to pervade and participate in global governance more easily and with greater effect, whether by allowing non-governmental organizations (NGOs) to participate in official meetings as observers or by formal and informal collaborations between civil society (including corporations) and state governments. Such collaborations have yielded notable results in the international arena, with the TRIPS Agreement and the Doha Declaration¹⁰⁸ being prominent examples. The influence and power wielded by international organizations has enhanced significantly both in absolute terms and by sheer virtue of their rapid proliferation. It is no surprise, then, that scholars routinely recognize international organizations as significant *and* independent sources of international law.

Dominant strands of liberal international relations theory justify the existence of international organizations by pointing to their rôle in encouraging political cooperation among states, facilitating the exchange of information and lowering transaction costs associated with generating needed cooperation in international affairs. Within the leading theoretical approaches to global politics, states create international organizations precisely to meet their self-interests and these organizations should, accordingly, exercise power primarily (if not solely) in response to state-authored mandates reflected in their institutional charters. Yet, as is evident in the case of BIRPI/WIPO, there is good evidence that international

organizations exercise power autonomously, in ways that extend well beyond the prescriptive duties stated in their charters and at times even in directions inconsistent with the interests or wishes of their member states. While such exercises of power may raise questions of legitimacy in the operation of an international organization, autonomous exertions of influence, particularly to shape norms, also reflect on the effectiveness of the organization to meet the expectations of member states.

Again, WIPO's recent move to formally incorporate an office dealing with 'global challenges' into its organizational structure is, at a minimum, a clear attempt to insert itself into a global debate that has potentially serious implications for its influence over areas less directly connected to the administration of global IP. As the move illustrates, the capacity of an organization to identify new issues that affect its operations, to redefine its mission as new, complex global issues arise, and to identify and act upon appropriate subject matter linkages is critical to the organization's ability to remain relevant and pertinent to the interests of its member states. This is also exemplified by the often referenced WTO response to the public health crises in DCs and LDCs shortly after the conclusion of the Uruguay Round. Had this issue been left unaddressed by the WTO, it undoubtedly would have imperiled the legitimacy of the TRIPS Agreement and, by association, the perception of the WTO as a highly evolved organizational body capable of responding to the needs of less powerful countries despite the interests of powerful states. Today, the relationship between the TRIPS Agreement and public health is a significant work platform of the WTO and the Organization has worked with the WHO to address issues at the interface of public health and IP protection. Similarly, other international economic institutions, such as the International Monetary Fund (IMF) and the World Bank (WB), have embraced issues such as gender equality and environmental protection as important parts of their monetary and development mandates. Such 'mission creep' or autonomous behavior represents a dual problem of legitimacy (are organizations doing what their members want them to do?) and effectiveness (are organizations producing results that justify the political and economic costs of maintaining them?).

In some cases, member states have empowered an international organization with a measure of independence, even if only implicitly stated, to undertake actions in new areas so long as those areas are consistent with the broader goal of the

organization. Thus, for example, WIPO's stated mission is to 'to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organizations.' WIPO's functions include: (i) promoting the development of measures designed to facilitate the efficient protection of IP throughout the world and to harmonize national legislation in this field; (ii) encouraging the conclusion of international agreements designed to promote the protection of IP; (iii) offering its cooperation to states requesting legal-technical assistance in the field of IP; and (iv) assembling and disseminating information concerning the protection of IP, carrying out and promoting studies in this field and publishing the results of such studies. None of these functions reflect the notion that WIPO's activities are to have any particular effect on the domestic interests or goals of member states in promulgating IP laws. Nor do these functions suggest any authority, capacity or competency to develop IP norms in connection with norms arising from other regimes. This is not to say that WIPO could not interpret its mission in light of possible issue-linkages. Clearly, it has started to do so with its recent activities through the Development Agenda and its proposed new offices. But WIPO's willingness to embrace linkage cannot easily or quickly overcome its institutional culture which traditionally has eschewed any competition with its proprietary ethos of IP norm production.

It is easy to assume that WIPO's doctrinal positions with respect to the relative benefits and costs of IP protection are mere reflections of the views of its most powerful member states and nothing else. However, this view would not explain several important hallmarks (successful or not) of IP law-making that ostensibly responded to the demands of weaker countries. These include the Stockholm Revision, the stymied efforts to revise the Paris Convention, the lapse until recently of the Standing Committee on the Law of Patents (SCP) and the much touted WIPO Development Agenda. But its very agility to create new platforms reinforces the claims articulated earlier. Rather than merely serving as an indifferent agent in the creation of global IP norms, WIPO has been a key player in shaping the contours of the debates among its members, thus ultimately defining what stays in the global IP system, what stays out and the conditions under which these decisions will occur.

14.3.2 Institutional Competitive Advantage

Proponents of inter-institutional cooperation between WIPO and the WTO note the particular advantages in IP expertise that WIPO may boast as compared to the WTO. And in part to address the WTO's institutional deficiency, the TRIPS Agreement was quickly followed by a cooperation agreement between the WTO and WIPO. In one sense, the WIPO-WTO Agreement can be viewed as a formal commitment by WTO members to limit the possibility for conflict between the two institutions. But as noted earlier, the text of the Agreement itself does not reflect how cooperation between the two Organizations should be structured, or which institution will or should govern IP norm-setting in the future. In a global environment marked by a multiplicity of international organizations whose mandates and/or work programs concern and affect diverse aspects of IP protection, global IP governance requires, at a minimum, a mechanism to ensure coherence in the normative ideals that sustain the rationale for global IP standards. As an initial matter, an organizational hierarchy for global IP norm-making is important because of outstanding disagreement over the propriety of existing levels of global IP protection. This dissonance remains a controlling feature of the global IP system. The contest has only been sharpened by the TRIPS Agreement's references to the importance of IP in achieving national public policy objectives. TRIPS Article 7 articulates the objectives of the Agreement:

The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

No previous WIPO treaty had formally embodied a reference to the role of users in accomplishing the innovation goals that IP policy generally has been designed to advance. And within WIPO, there is no effective mechanism to inject this public-oriented view of global IP into WIPO's culture. But with the various access points in the WTO—from the TRIPS Council to the dispute panels—Art. 7 serves as an important textual premise to re-invigorate the dominant owner-centric model of global IP policy with broader socio-economic concerns. The WTO is a wholly

distinct source of IP jurisprudence for the global economy. As the only forum within which WIPO-negotiated treaties can be interpreted and enforced, the WTO is a singularly dominant authority for the creation of appropriately balanced global IP norms.

14.3.3 Form and Function in the WIPO-WTO Agreement

In general, effective accommodation of 'extra-trade' objectives depends on the application or consideration by the WTO of extant legal norms within the particular subject matter for which linkage claims are being made and an assumption, at the minimum, that those norms: 1) are legitimate and/or uncontested (i.e., stable) within the particular discipline; and 2) have an internal logic that is reasonably compatible with the core tasks with which the trade regime has been entrusted. Further, there must be a reasonably stable iterative process by which developments in the linked subject-matter disciplines can be effectively incorporated in the application of WTO law and by which WTO action can permeate the political edifice of the global regulatory system. In the context of the TRIPS Agreement, the WIPO-WTO relationship offers an important means to 'globalize' post-TRIPS IP norms that could positively modify the presumptive ascendancy of property rights in knowledge goods over the affirmative role that governments must undertake in the provision of public goods.

The official institutional governance framework for IP is grounded in the TRIPS preamble, which identifies the desire of the contracting parties to 'establish a mutually supportive relationship between the WTO and [WIPO].' Further, in TRIPS Article 68, WIPO's administration and management of the IP treaties, including those not incorporated in the TRIPS Agreement, may also be pertinent for the overall global regulatory system which the WTO now largely oversees. The TRIPS Council was mandated to establish within a year of its first meeting 'appropriate arrangements for cooperation with bodies' in WIPO. However, these are only the explicit directives for a cooperative framework to manage relations between WIPO and the WTO. As is well known, the substantive obligations of the TRIPS Agreement are derived substantially from treaties administered by WIPO. Accordingly, the required knowledge and technical expertise associated with those treaties are important to the WTO's activities with respect to IP, particularly in the case of dispute settlement. WIPO's administration and management of the IP

treaties, including those not incorporated in the TRIPS Agreement, may also be pertinent for the overall global regulatory system which the WTO now largely oversees.

The WIPO-WTO Agreement itself consists only of five articles of which the first and the last address purely mechanical matters involving definitions, entry into force and termination of the Agreement. Of the three remaining provisions, Articles 2-4, the most extensive is Article 2, which draws upon WIPO's administrative competency. Article 2(1) requires WIPO to service the needs of WTO members and its nationals with respect to making copies of laws and regulations in the WIPO collection, and also to make available copies of translations of such laws and regulations. WTO constituents (members and their nationals) are also guaranteed access to electronic databases containing such laws and regulations. Another access provision links Article 63.2 of the TRIPS Agreement, which requires member states to notify the TRIPS Council of laws or regulations which affect TRIPS obligations, with WIPO's administrative functions. Finally, Article 2(5) requires WIPO to furnish assistance to both WTO and WIPO members who are DCs with respect to the translation of laws and regulations. The WIPO-WTO Agreement requires that WIPO furnish, upon request of the WTO Secretariat and TRIPS Council, copies of laws or regulations submitted to WIPO and notified to the WTO pursuant to TRIPS Article 63(2). Similarly, the WTO is required to transmit to WIPO, without restrictions on WIPO's use, copies of laws and regulations received by the Secretariat pursuant to TRIPS Article 63(2) for placement in WIPO's collection.

Establishing WTO Primacy: Article 2 of the WIPO-WTO Agreement

At least three important features of Article 2 suggest that WTO primacy was implicit in its drafting. First, all the obligations in Article 2 require unconditional equal treatment by WIPO of WTO members and their nationals. No institutional privileges associated with WIPO membership may be denied to WTO members, at least with respect to WIPO's well-known status as a rich repository of copyright laws from countries around the world. Second, this principle of equal treatment, at a minimum, infuses a sense of institutional parity with respect to the respective roles of the WTO Secretariat and the International Bureau of WIPO in the oversight of the minimum substantive obligations of the WIPO treaties

incorporated into the TRIPS Agreement. Third, in its collaborative stance even in matters as seemingly mundane as the exchange of the IP laws and regulations of member states, Article 2 of the WIPO-WTO Agreement serves as a mechanism for facilitating transparency and openness in the architecture of global IP regulation. Such transparency may have been intended only to serve the WTO's interest in compliance with the formal obligations of the TRIPS Agreement. But it could also enhance (or be used to leverage) greater transparency in WIPO, particularly with respect to its legislative and other technical assistance to developing countries.

In recent years, WIPO has faced intense criticism for fostering an organizational culture which belies the benefits of transparent governance over global IP. As IP issues have become increasingly fractious and contested insistent demands for transparency in numerous WIPO activities have only intensified. Critical assessments of WIPO's technical assistance to DCs and LDCs were reflected in demands by those countries for institutional reform in WIPO that brought about the Development Agenda. Cluster A of the Agenda consists of fourteen proposals, all driven by a 'development-orientation that includes assistance to facilitate diffusion and access to knowledge goods. Brazil's recent proposal that the TRIPS Council adopt the normative premise of the technical assistance principles is an important example of the significance of WTO primacy. While the Agenda originated in WIPO, in the absence of an enforcement mechanism, implementation along consumer-friendly and balanced normative lines is highly improbable. Adoption by the TRIPS Council under the aegis of Article 67 of the TRIPS Agreement would legalize the obligation of developed countries to acknowledge interests, other than rights holders', in the application and delivery of capacity building programs. As a WTO matter, then, the normative impetus of the Development Agenda could claim legitimacy for bargaining or dispute settlement purposes. At least with respect to technical assistance, formal adoption by the WTO would in turn help constrain any slippage in WIPO's commitment to the Agenda, since the platform in effect would be shared with the WTO.

Article 3 of the WIPO-WTO Agreement

The second substantive article in the WIPO-WTO Agreement reflects an unavoidably deeper linkage between WIPO and the WTO than Article 2, although it also draws on WIPO's administrative competency. Article 3 of the WIPO-WTO Agreement establishes WIPO as the governing agency, for *TRIPS purposes*, of the

communication of emblems and transmittal of objections consistent with Article 6ter of the Paris Convention. Here, the WIPO-WTO Agreement explicitly integrates WIPO into the TRIPS administrative framework and, in effect, consolidates an agency role for WIPO already somewhat evident from the language in Article 2.

Article 4 of the WIPO-WTO Agreement

The last substantive article of the WIPO-WTO Agreement also confirms this agency role. Article 4 of the Agreement requires that WIPO make available to WTO member states that are not WIPO members the same legal and technical assistance offered to WIPO members. The WTO Secretariat is also obligated to provide to developing country WIPO members, who are not also members of the WTO, the same technical cooperation relating to the TRIPS Agreement offered to developing countries.

Finally, Article 4 requires both agencies to 'enhance cooperation' in the provision of legal-technical assistance and technical activities relating to TRIPS for DCs so as to maximize the usefulness of those activities and ensure their mutually supportive nature. The two agencies also agreed to stay in regular contact and to share non-confidential information with regard to the legal-technical assistance activities. Given this provision, it is possible to argue that the TRIPS Council could, in principle, refuse technical assistance along the lines envisaged by the Development Agenda. In other words, although WIPO is obligated to give to WTO members the same level of technical assistance available to WIPO member states, it appears that if the WTO formally eschews the objectives of the Development Agenda, WIPO could easily resort to its previous model of technical assistance. Since, under Article 4, the WTO usually makes a formal request for technical assistance from WIPO, it is entirely plausible that it could define the terms of such assistance. Brazil's proposal to the WTO could be seen as an implicit acknowledgement that the WTO is not obligated to accept WIPO standards as a matter of course.

14.3.4 Models of WIPO-WTO Cooperation

Competing claims of final legal authority are not commonly or explicitly made in the international legal context. There is no hierarchical or structured order governing inter-institutional relations. Instead, legal pluralism remains the central

governance framework characterized by unsettled or ambiguous relationships among various regimes and, accordingly, among international organizations. Indeed, while most international organizations have formal and informal modes of cooperation with others, many of the mechanisms employed, such as observer status, formal agreements or memoranda of understanding, tend to be task-oriented, focusing, like the WTO-WIPO Agreement, on technical assistance and capacity-building obligations. This is not to undermine the earlier point that such activities can be norm-influencing in themselves, as WIPO's history in particular illustrates. However, inter-institutional cooperation focused on areas in which norms are uncontested hardly precludes norm fragmentation or norm conflict, which is a core motivation for such collaboration. Further, to the extent contemporary methods of inter-institutional collaboration are a means for international organizations to protect their jurisdictional turf (or otherwise expand it), inter-institutional collaboration could itself be another source of fragmentation. In this regard, it is worth considering how WIPO-WTO relations might be structured with greater emphasis on the competing interests at stake in future IP norm-setting.

At least three models of WIPO-WTO relations merit consideration and the TRIPS dispute decisions reflect traits from each model. These are: 1) an expert agency model; 2) a presumptive peer-to-peer model; and 3) an explicitly hierarchical model. To different degrees, each of these models is evident in the existing WIPO-WTO relationship. In briefly outlining the models, the intention is not to identify a single model to govern WIPO-WTO relations. Rather, it is to point out that each model has a functional benefit or advantage that may appropriately serve welfare interests in different contexts. For example, the peer-to-peer model, in which each Organization functions in a discrete policy space, could be seen as the default situation that governs the relationship between both Organizations most of the time. The expert agency model, on the other hand, may be most dominant in the context of a dispute between states. This is an area in which, given WIPO's lack of enforcement power, only the WTO has the capacity to create norms through its interpretation of the relevant treaties. WIPO's expertise, if necessary, should ideally play a role in the process, but only at the discretion of a dispute panel. The hierarchical model should prevail in situations where a global public good is involved and the prospect of a multilateral solution will require linkages to

facilitate a negotiated normative outcome. The hierarchical model could also prevail in an area of shared policy space, such as technical assistance or technology transfer, in which the structure of the WTO offers a wider range of opportunities to introduce norms regardless of the status of a trade round. Given the important and often immediate technology needs of DCs and LDCs, it is important that as many options for norm development exists outside the constraints of the treaty negotiating process that characterizes law-making in WIPO.

The Expert Agency Model

A possible way to view WIPO in relation to the WTO is as an agency with relevant technical, factual and historical expertise and experience with respect to global IP laws. Such a model would place WIPO in the position of supplying specialized information and/or opinions to the WTO based on its historical work and participation in the establishment of the global IP system. As a quasi-legal fact finder with respect to the evolution of IP obligations incorporated into the TRIPS Agreement, the WTO would treat facts supplied by WIPO with a pre-determined level of deference. At the high end of this model, it is possible to consider that such facts should be binding on the WTO, or be presumptively treated as an acceptable standard for TRIPS purposes similar to the Codex Alimentarius. Doing so would clearly suggest a more administrative (but still hierarchical) form of interaction between the two Organizations and it would be important to develop a framework to determine how such deference could be structured.

Further, deference to an appropriately carved-out expert role for WIPO would reflect a more meaningful integration of the WTO in the international IP system. At a minimum, WIPO documentation and materials should form part of the official sources in considering the nature of the obligations imposed by the norms codified in the WIPO treaties. Even as a fact-supplier, WIPO could opine on the way those facts have influenced norm creation within WIPO. Such interpretive opinions should not be binding on a TRIPS dispute panel or the Appellate Body (AB) as such particularly given that interpretation of the Berne and Paris Conventions within the trade regime could emphasize different values or incorporate norms from other regimes. Nonetheless, such opinions can add credibility and assurance to panel and AB deliberations when interpreting the TRIPS Agreement. Since there can be no denying that WIPO has much to offer by way of technical and historical

expertise, some level of presumptive validity should be accorded to this expertise in the WTO.

The Presumptive Peer-to-Peer Model

The peer-to-peer approach is the most intuitively and politically expedient approach as well as one that is consistent with the presumptions of equality among actors in international law. Upon close scrutiny, it may be different from the agency model only as a matter of degree. As Professor Abbott has proposed, in such a 'distributed governance' model, both Organizations continue to exercise autonomy and discretion over their respective mandates, creating and influencing IP norms ostensibly around their stated functions. But in this model, more than in the agency approach, the activity of state members can influence the rate and direction of norm-setting as well as which Organization will produce future IP norms.

A fully functioning classic peer-to-peer approach will require more in WIPO-WTO relations than is contemplated by the language of the WIPO-WTO Agreement. Deeper linkages should be sought in norm-setting that can draw upon WIPO's collective institutional resources and the WTO's strategic linkages across regimes. In the absence of such deliberate collaboration, the peer-to-peer model will inevitably produce a competitive tension between the two Organizations in which strategic forum-shopping by states and the exercise of institutional autonomy could yield different norms or effect different legal obligations with regards to compliance with existing IP norms. For example, in the face of Antigua's consideration of suspending TRIPS obligations for US' failure to comply with a WTO ruling, a WIPO official opined that while suspension of IP rights may be permissible under the WTO IP regime, such suspension would still constitute a violation of the WIPO IP treaties. If this view were to prevail, the benefit of strategic trade-offs that characterized the Uruguay Round would be lost for relatively powerless DCs and LDCs. Importantly, it would disrupt the balance of concessions central to the stability of the trade regime.

The Explicitly Hierarchical Model

The capacity to hold all member countries to the benefit of the bargain concluded under the Uruguay Round is precisely why a hierarchical model for IP is inevitably

the reality on the ground. The ambiguity regarding parallel duties in a non-hierarchical world is evident in other regimes with enforcement prospects, such as in international criminal law. But within the IP regime, a case for WTO primacy could easily be made given that WIPO lacks any effective or mandatory enforcement power. Accordingly, the real issue in considering WIPO-WTO relations is how the WTO interprets its mandate and decides which IP issues it will leave to WIPO. In this regard, state action will play a role in what will likely be a dynamic process, as will organizational culture. The extent to which either Organization utilizes its internal culture to effectively address issues important to its member states and produces outcomes that reflect a careful balance between the divergent interests represented by IP governance will surely affect how hierarchy is construed between the two Organizations. It will also determine which of the three models will dominate WIPO-WTO relations at any given point in time.

Again, the recent organizational developments in WIPO could signal the arrival of a much-anticipated evolution in WIPO's view of the role of IP in a complex modern environment and its willingness to respond meaningfully to new challenges. WIPO's new offices will make it look much more like the WTO—an organization with proven ability to address linkage problems. Whether WIPO can develop the organizational facility to carry out a radically new orientation and function is a separate question. Alternatively, the recent initiatives could simply be another strategic effort by WIPO to preserve its authority and credibility in the international community by offering an institutional platform on which new issues can be absorbed into the Organization. Only time will tell which of these two possibilities is likely to prevail in WIPO's future.

14.3.5 The Persistence of Linkage and the Strategic Use of the WTO

It is easy to assume that once a linkage bargain has been struck, the underlying rationales of states become insignificant. Yet, what the troubled IP-trade linkage illustrates is that once linkage is embraced, it must inform the kind of institutional arrangements needed to manage normative, administrative and strategic considerations necessary to make the linkage sustainable. The fact is that linkages are less likely to cohere over time if the substantive regulation occurs within

distinct regimes and the potential for incoherence increases significantly if members initially embraced the linkage for starkly disparate reasons, as is the case with trade and TRIPS. Accordingly, the greater the degree of divergence in the motivations for the linkage, the greater the possibility for norm fragmentation, as states utilize different institutional competencies to advance their particular goals.

The trade-IP linkage was motivated primarily by the interests of developed countries for effective global enforcement of IP rights. That same linkage today shows signs of capture by DCs and LDCs, whose interest in linkage is focused almost entirely either on bargains made possible by the IP leverage, as in the prospects for cross-retaliation, or use of the WTO to enforce normative IP principles not likely to gain ground in WIPO. Both sides face tremendous challenges in such strategic uses of the WTO.

For example, efforts by the US, Japan, the EU, and Switzerland to advance enforcement activities in the TRIPS Council were rejected by developing countries. The Antigua case also is a relevant example of the parallelism that can evolve when regime linkages are disconnected from broader social and political contexts. If WIPO is not subordinated to the enforcement outcomes of the WTO, what seemed like a justifiable issue linkage at the beginning of the Uruguay Round may instead turn out to be an unworkable and unstable regime linkage that renders the current global IP system vulnerable to norm fragmentation and incoherence, as institutional emphases differ despite overlapping IP mandates. In the absence of shared-foundational principles or a common objective on the propriety of global protection for IP, regime linkage can merely be a means to accommodate forum shifting. This is evidenced recently by the proliferation of efforts to forge an IP enforcement agenda in multiple fora and through new bilateral, regional and plurilateral trade agreements. Hierarchical relations offer one way to break the ties that bind global IP norms to the vagaries of strategic behavior by states and the disruptive exercise of autonomous power by international organizations.

14.4 Shared Governance as a Hallmark of Future IP Norm-Setting

In pursuing the WTO as a primary source of future IP norms, an important consideration is the relative openness of the WTO to the multiple actors affected

by IP rules. Just as WIPO has done historically, the WTO has the capacity to insulate its processes and decisions from the very community its mandate directs it to serve. While it is the case that a variety of non-state actors have increasingly, and often successfully, affected the course of international policymaking, with a recent example at WIPO, international organizations by far still stand at the epicenter of debates about the changing nature of global governance.

As non-state actors become more firmly and formally integrated into international organizations and global policy-making processes, shared governance is increasingly characteristic of the global political framework. This system, which gives non-state actors the ability to affect and be part of constituencies in which norms are incubated and eventually expressed through policy and treaty obligations, is the inevitable byproduct of multi-layered decision-making that spans local national, regional and multilateral organizations. Hierarchy is not only a means of governance across these several locus points, but also a recognition that the effectiveness and sustainability of norms is intricately linked to the way various structures interact to reflect and reconcile the competing interests of multiple stakeholders and actors in any single regime. It is important to make clear, then, that hierarchy cannot replace hierarchy with regard to the process of IP norm creation. Even with respect to the important question of global public goods, the reality is that the WTO cannot act in isolation no matter how laudable its goals or how superior or effective its institutional structure. This point is particularly poignant in reflecting upon the TRIPS Agreement and the subsequent developments in international IP—both internal and external to the trade regime—such as the Doha Declaration, the establishment and report of the UK Commission on Intellectual Property Rights (CIPR), and most recently, the WIPO Development Agenda—all of which in varying degrees question, refute, push back on and acknowledge the need for different conceptual and policy considerations in the development, interpretation and application of TRIPS obligations.

The same hierarchy that became an explicit delimitation on the specialized regime model of WIPO also must play a role in holding the WTO accountable. As between WIPO and the WTO, some scholars note that shared IP governance enhances the comparative advantages of both Organizations without replicating functionalism, since there would be an integrated decision-making and

enforcement structure. In the absence of such integration, obviously the WIPO-WTO relationship would be more like regime amalgamation, which requires a supra-structure to overcome significant moral hazard problems. This is one problem with a peer-to-peer model in which no clear division of labor has been articulated, as is the case with the WIPO-WTO Agreement.

There is the further problem of expertise with respect to the emerging issues at the frontier of global IP regulation. Neither WIPO nor the WTO alone can effectively account for the range of subjects on which IP regulation has an effect. Both Organizations will require the expertise and input of other organizations. While the activities of WIPO and the WTO will long continue to attract premium attention with respect to norm-setting import, there is no doubt that organizations such as UNESCO, WHO, the Food and Agriculture Organization (FAO), along with NGOs will be important sources of normative principles that are destined to impact the terms of future IP cooperation among nations. Notwithstanding, as between WIPO and the WTO, important design features make the WTO uniquely situated for global IP norms that must assure an unbroken supply of critical global public goods.

14.5 Norms and Norm-Setting Capacity in the WTO

In considering the future of IP norm creation, the primary question that arises is how and where best the common development aspirations of trade and IP can be more explicitly defined and fostered. A significant challenge to the WTO's authority over global minimum IP standards is its historical institutional deficit with respect to IP norm-setting. It is important first to define what the term means by 'norms' and 'norm-setting' in this context. In international law, norms usually are synonymous with the legal obligations codified in treaties and which, as a result, constitute authoritative standards to which state actions must conform. Norms also encompass principles or precepts discernible in patterns of state behavior established over a period of time. Such behavior, whether or not associated with prescribed treaty provisions, constitutes a basis from which principled expectations of state behavior arise and are relied upon to guide and regulate acceptable interaction among states. Norms thus encompass explicit bargained-for rules, standards of behavior associated with how states have complied with those rules, expectations arising from the established practice of

states and other generally recognized precepts that exert a moral pull on actors, either because they have consented to be bound by the rule (e.g., through a participatory process) or because the rule reflects a constitutional value indispensable to the basic order of socio-political communities, whether national or multilateral.

Thus, in terms of norm-setting activity, for example, the way in which WIPO or the WTO determines the constitutive elements of 'technical assistance' and assesses whether such assistance is, first, necessary and, second, effective, is part of the normative orientation likely to manifest in the expectations that states have with respect to compliance with treaty obligations. Similarly, the manner in which the WTO evaluates state IP laws for compliance with TRIPS also injects normative bias into the global IP framework by altering state behavior along the lines of such WTO counsel. Accordingly, one of the benefits of WTO primacy over global IP rules is the range of avenues available to it to create and diffuse IP norms through its various offices and tasks.

The impressive breadth of the TRIPS Agreement in terms of the obligations embodied therein is second only to the expansive administrative structure states designed to secure the objectives of the Agreement. While the negotiated obligations established strong legal standards for IP protection, it is the WTO's capacity to shape the development of IP norms incorporated in the Agreement that potentially holds transformative power over the multilateral IP regulatory landscape. Of particular importance is the work of the TRIPS Council, TRIPS dispute panels and the AB, whose mandates clearly envisage a role for them in the hierarchy of multilateral IP institutions and whose accomplishments already reflect their respective power over the future of global IP norm-setting.

14.6 Summary

Inter-institutional cooperation has been an important management tool in a global environment overly populated with international organizations. As a doctrinal matter, such cooperation rests on the classic assumption of equality among international organizations. The WIPO-WTO Agreement does not suggest such equality and the disparate powers, capacity, design and legitimacy that distinguish

the two Organizations mitigate against this otherwise classic presumption in international law.

The critical role of IP regulation to the provision of global public goods requires important attention to the political and normative costs of intense collaboration between WIPO and the WTO. Further, the human welfare dimensions of IP regulation that provide critical policy support for other regimes, such as human rights, the environment, workers' rights and global competition, suggest that the institution with the broader mandate is best situated to develop IP norms in a manner that balances the competing goals of distinct international law regimes to advance the common welfare of states and individuals around the world.

14.7 Self Assessment Test

1. Discuss the insularity of WIPO in the light of primacy of intellectual property protection.
2. Whether WTO was preferential institution for monitoring the protection of IPRs? Give reasons to your answer.
3. Discuss the main and functional provisions of the WIPO and WTO agreement.
4. What do you mean by the "Norms" and "Norm-Setting Capacity in the WTO"? Discuss.
5. What is the future of the IP norm-setting? Discuss the models of WIPO and WTO cooperation

14.8 Further Readings

1. Agreement between the World Intellectual Property Organization and the World Trade Organization.
2. C. Deere, *The Implementation Game: Developing Countries and the Global Politics of IP Reform in Developing Countries*.
3. Monique L. Cordray, 'GATT v. WIPO', *Journal of the Patent and Trademark Office Society*.

Unit 15

IPR – Relating to Disputes Settlement (Global Aspects or Globally)

Objectives:

After going through this unit, you should be able to understand the mechanism of dispute settlement at WTO and its benefits to the developing countries; you will also be able to analyze the problems faced by the developing countries.

Structure:

- 15.1 Introduction
 - 15.2 Dispute Settlement in the World Trade Organization
 - 15.2.1 *Forum / Jurisdiction*
 - 15.2.2 *Bodies*
 - 15.3 The Dispute Settlement Procedure in Full
 - 15.3.1 *Pre-litigation stage*
 - 15.3.2 *Litigation stage*
 - 15.3.3 *Arbitration*
 - 15.4 Cross-retaliation under the WTO Dispute Settlement Mechanism involving TRIPS Provisions
 - 15.4.1 *Cross-retaliation involving intellectual property right*
 - 15.4.2 *Practical considerations*
 - 15.5 Dispute Settlement Mechanism under WTO: Implications for Developing Countries
 - 15.5.1 *Benefits for Developing Countries*
 - 15.5.2 *Obstacles for Developing Countries*
 - 15.6 Summary
 - 15.7 Self Assessment Test
 - 15.8 Further Readings
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15.1 Introduction

The TRIPS Agreement is a multilateral WTO agreement and, as such, applicable to all 147 members of the WTO. It is also binding for every country that accedes to the WTO. Unlike most other international agreements on intellectual property, TRIPS sets minimum standards of protection with respect to all forms of intellectual property: copyright, trademarks and service marks, geographical indications, industrial designs, patents, layout designs of integrated circuits, and trade secrets. In respect of each of these areas of intellectual property, the Agreement defines the main elements of protection, namely, the subject-matter to be protected, the rights to be conferred, and permissible exception to those rights. For the first time in an international agreement on intellectual property, TRIPS addresses the enforcement of IPRs by establishing basic measures designed to ensure that legal remedies will be available to title holders to defend their rights. The approach taken by the Agreement is to set general standards on, among other things, enforcement procedures, the treatment of evidence, injunctive relief, damages, and provisional and border measures.

The WTO's Dispute Settlement Understanding (DSU) evolved out of the ineffective means used under the GATT for settling disagreements among members. Under the GATT, procedures for settling disputes were ineffective and time consuming since a single nation, including the nation whose actions were the subject of complaint, could effectively block or delay every stage of the dispute resolution process. It remains to be seen whether countries will comply with the new WTO dispute settlement mechanism, but thus far the process has met with relative success.

The DSU was designed to deal with the complexity of reducing and eliminating non-tariff barriers to trade. A non-tariff trade barrier can be almost any government policy or regulation that has the effect of making it more difficult or costly for foreign competitors to do business in a country. In the early years of the GATT, most of the progress in reducing trade barriers focused on trade in goods and in reducing or eliminating the tariff levels on those goods. More recently, tariffs have been all but eliminated in a wide variety of sectors. This has meant that non-tariff trade barriers have become more important since, in the absence of tariffs, only such barriers significantly distort the overall pattern of trade liberalization. Frequently, such non-tariff trade barriers are the inadvertent consequence of well meaning attempts to regulate to ensure safety or protection for the environment, or

other public policy goals. In other cases, countries have been suspected of deliberately creating such regulations under the guise of regulatory intent, but which have the effect of protecting domestic industries from open international competition, to the detriment of the international free trade regime.

The WTO's strengthened dispute resolution mechanism was designed to have the authority to sort out this "fine line between national prerogatives and unacceptable trade restrictions" Several of the supplemental agreements to the GATT created during the Uruguay Round, such as the SPS Agreement, sought to specify the conditions under which national regulations were permissible even if they had the effect of restraining trade. The United States, perhaps more than any other country, has found itself on both sides of this delicate balance. In 1988, it was the United States who pushed for strengthening the Dispute Settlement provisions of the GATT during the Uruguay Round, in part because Congress was not convinced that, "the GATT, as it stood, could offer the United States an equitable balance of advantage." The concern was that formal concessions granted to U.S. exports going into other countries would be eroded by hidden barriers to trade. On the other hand, the United States harbors reservations in regards to its sovereignty, with much of the negative reaction to the WTO itself centered around the concern that U.S. laws and regulations may be reversed by the DSU panels or the Appellate Body.

Critics argued that the WTO would "compel Congress and our states to abandon many health and environmental standards" if they were at odds with international trade rules. Particularly, these critics noted that the United States would not have a veto in the WTO and that each nation would have an equal say in the DSB, which ultimately votes to adopt or reject panel reports. They further noted that the Appellate Body and the dispute settlement panels vote in secret, and that they could authorize nations to retaliate against violations of the trade agreements with unilateral sanctions. It was argued by some that the cumulative effect of WTO dispute panel decisions would be to erode the sovereignty of the United States. One of the purposes of this review is to assess the validity of this claim in light of the actual functioning of the WTO system over the last three years.

15.2 Dispute Settlement in the World Trade Organization

The dispute settlement procedure of the World Trade Organization (WTO) is governed by the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU). With certain exceptions, the DSU is uniformly applicable to differences that arise in the context of all WTO agreements. In some cases, the "Special or Additional Rules and Procedures Contained in the Covered Agreements" apply (article 1.2 and appendix 2 of the DSU). All WTO member nation-states are subject to it and are the only legal entities that may bring and file cases to the WTO. The DSU created the Dispute Settlement Body (DSB), consisting of all WTO members, which administers dispute settlement procedures. It provides strict time frames for the dispute settlement process and establishes an appeals system to standardize the interpretation of specific clauses of the agreements. It also provides for the automatic establishment of a panel and automatic adoption of a panel report to prevent nations from stopping action by simply ignoring complaints. Strengthened rules and procedures with strict time limits for the dispute settlement process aim at providing "security and predictability to the multilateral trading system" and achieving "a solution mutually acceptable to the parties to a dispute and consistent with the covered agreements." The basic stages of dispute resolution covered in the understanding include consultation, good offices, conciliation and mediation, a panel phase, Appellate Body review, and remedies.

WTO demands that all its Members respect the rules in the interests of a safer and more reliable multilateral trade system. In this sense, WTO Members have agreed that, when they judge that other Members have broken trade rules, they shall refer the matter to the dispute settlement mechanism rather than adopting unilateral measures. This involves complying with the agreed procedures and respecting the decisions reached by the dispute settlement bodies set up for that purpose.

15.2.1 Forum / Jurisdiction

The WTO dispute settlement system has jurisdiction over any difference that may arise between Member countries, above and beyond the provisions of any of the "Covered Agreements" provided for in appendix 1 of the DSU. That is to say, a dispute based on the violation of WTO rules can only be dealt with by the multilateral forum, rather than by regional dispute settlement mechanisms.

15.2.2 Bodies

WTO bodies include the political institution known as the Dispute Settlement Body (DSB) and the independent and quasi-judicial institutions that are the Panels, the Appellate Body and Arbitrators:

Dispute Settlement Body (DSB) - Article 2 of the DSU

- Comprises a chairman (head of the permanent mission of one of the Member countries appointed by consensus among the Members of WTO) and representatives of all WTO Members (government representatives, usually diplomats who belong to ministries of trade or foreign affairs). In their capacity as government officials, the representatives receive instructions from their governments on the positions they must adopt and the statements they must make within the DSB, hence the latter is considered a political body.
- The DSB is responsible for the application of the DSU, in other words it oversees the entire dispute settlement procedure. It has the authority to set up panels, adopt panel and Appellate Body reports, monitor the application of recommendations and authorize retaliatory measures when a Member fails to comply with rulings.
- The DSB usually meets once a month and the Director-General may convene extraordinary meetings at the request of Members. The staff of the WTO Secretariat provides administrative support to the DSB.
- As a general rule, the DSB makes decisions by consensus. However, when the DSB sets up panels, adopts reports or authorizes retaliation, the decision is automatically considered to be adopted, unless there is a consensus to the contrary (a negative consensus).

Director-General and Secretariat of WTO

The Director-General of WTO participates in the Dispute Settlement Body (DSB) in the following ways: The Director-General may, acting in an ex officio capacity, offer good offices, conciliation or mediation with the view to assisting Members to settle a dispute (article 5.6 of the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU)), especially in cases involving a less developed country;

If there is no agreement on the panelists, at the request of either party, the Director-General, in consultation with the Chairman of the DSB and the Chairman of the relevant Council or Committee, shall convene DSB meetings and determine the composition of the panel (article 8.7); The Director-General appoints an Arbitrator to determine a reasonable period of time if the parties are unable to agree on a period of time or the appointment of an Arbitrator (article 21.3 c); The Director-General shall examine proposed retaliatory measures in cases of non-implementation (article 22.6).

Within the Dispute Settlement Body (DSB), the Secretariat can act in the following ways (article 27): Reports to the Director-General; provides assistance in respect of dispute settlement to Members at their request; organizes special training courses and provides additional legal advice and assistance to developing country Members; provides assistance to parties in the formation of panels; and helps established panels and provides administrative support to the DSB.

Panels - articles 6, 7 and 8 of the DSU

- Panels are quasi-judicial bodies responsible for settling differences between Members in the first instance.

- They comprise three, and in exceptional cases five, experts specially selected for each case (there is no permanent panel, but rather a different one is set up for each case). WTO Members regularly put forward names to be included in the list kept by the Secretariat. People appointed to a panel provide their services independently, in an individual capacity, and not as a representative of any government or organization.

Appellate Body - article 17 of the DSU

Unlike the panels, the Appellate Body is a standing body made up of seven members appointed by the DSB by consensus and for a period of four years, with a maximum of two terms. The Appellate Body examines the legal aspects of panel reports (rather than studying evidence or facts), and represents the second and final instance of the legal process.

Arbitrators - article 25 of the DSU

Arbitration is an alternative means of dispute settlement to panels and the Appellate Body. Arbitrators can thus be called on to resolve certain issues at various stages of the dispute settlement process (when there is no agreement on

determining the reasonable period of time or on the level of retaliation). Arbitral awards are not subject to appeal and may be enforced by the DSB.

Experts - article 13 and appendix 4 of the DSU

- Panels may seek the opinions of experts in dealing with technical or scientific issues, such as when the case relates to the Agreement on the Application of Sanitary and Phytosanitary Measures, Agreement on Technical Barriers to Trade, or the Agreement on Subsidies and Countervailing Measures.
- Groups of experts act under the authority of the panel, and provide the latter with their opinion. These groups carry out a purely consultative role. The final decision on legal issues and fact-finding, based on expert opinion, remains with the panel.

15.3 The Dispute Settlement Procedure in Full

15.3.1 Pre-litigation stage

Consultations: A filing of a "Request for Consultations" is the official beginning of the dispute within WTO and brings the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) into play. Consultations provide parties with the opportunity to debate the issue and find a satisfactory solution without resorting to litigation. The party complained against must reply to the request within 10 days after the date of its receipt and shall enter into consultations in good faith within a period of no more than 30 days after the date of receipt of the request. If the Member does not comply with this time frame, then the Member that requested the holding of consultations may proceed directly to the litigation stage and request the establishment of a panel. If the consultations fail to settle a dispute within 60 days after the date of receipt of the request for consultations, the complaining party may request the establishment of a panel (article 4.7). However, governments are in permanent contact, and agreement may be reached at any stage of the process (article 4). Along with good offices, conciliation and mediation, consultations are the main non-judicial or diplomatic instrument in the WTO dispute settlement system.

15.3.2 Litigation stage

1st Stage (Panel): If the consultations fail to settle a dispute, the complaining party may request establishment of a panel by the Dispute Settlement Body (DSB). The panel must be established within 45 days of the request. Once established, the panel must produce a report for the DSB within six to nine months. This report must include an objective assessment of the facts of the case and an examination of the measures in dispute, using the relevant provisions of the appropriate legal instruments.

2nd Stage (optional recourse to the Appellate Body): The DSB establishes a standing Appellate Body that will hear the appeals from panel cases. The Appellate Body "shall be composed of seven persons, three of whom shall serve on any one case." Those persons serving on the Appellate Body are to be "persons of recognized authority, with demonstrated expertise in law, international trade and the subject matter of the Covered Agreements generally." The Body shall consider only "issues of law covered in the panel report and legal interpretations developed by the panel." Its proceedings shall be confidential, and its reports anonymous. This provision is important because, unlike judges in the United States, the members of the appellate panel do not serve for life. This means that if their decisions were public, they would be subject to personal retaliation by governments unhappy with decisions, thus corrupting the fairness of the process. Decisions made by the Appellate Body "may uphold, modify, or reverse the legal findings and conclusions of the panel." The DSB and the parties shall accept the report by the Appellate Body without amendments "unless the DSB decides by consensus not to adopt the Appellate Body report within thirty days following its circulation to the members."

The Appellate Body examines the legal aspects of the challenge and may uphold, modify or reverse the legal findings and conclusions of the panel (article 17.13).

According to the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU), parties may adopt three positions in relation to reports:

Implementation: it is insisted that the party failing to fulfill its obligations comply with the recommendations of the panel or Appellate Body. When it is impossible to do so immediately, the DSB may establish a reasonable period of time for implementation.

Payment of compensation: when the offending party exceeds the reasonable period of time without implementing the recommendations or determinations, the complainant may ask for compensation. The offending party may also offer compensation. There are consequences for the member whose measure or trade practice is found to violate the Covered Agreements by a panel or Appellate Body. The dispute panel issues recommendations with suggestions of how a nation is to come into compliance with the trade agreements.

If the member fails to do so within the determined "reasonable period of time," the complainant may request negotiations for compensation. Within twenty days after the expiration of the reasonable period of time, if satisfactory compensation is not agreed, the complaining party "may request authorization from the DSB to suspend the application to the member concerned of concessions or other obligations under the Covered Agreements." Retaliation shall be first limited to the same sector(s).

If the complaining party considers the retaliation insufficient, it may seek retaliation across sectors. The DSB "shall grant authorization to suspend concessions or other obligations within thirty days of the expiry of the reasonable time unless the DSB decides by consensus to reject the request." The defendant may object to the level of suspension proposed. "The original panel, if members are available, or an arbitrator appointed by the director general" may conduct arbitration.

Retaliatory measures: when the offending party fails to comply with recommendations and refuses to offer compensation, the affected party may request DSB authorization to introduce retaliatory measures against the offending country. In principle, these measures must be applicable in the same sectors in which the panel has established the existence of an offence. Only if this were considered impossible would could the application of retaliatory measures in other sectors of the same agreement be authorized.

In any event, the above-mentioned measures (compensation or retaliation) are considered temporary measures, as the offending country is expected to fully adopt the recommendations or determinations formulated by the panel or Appellate Body.

Summary of Time Periods within the Dispute Settlement Mechanism

Time Scale	Actions
60 Days	Consultation, Mediation, etc.

45 Days	Establishment of panel and appointment of members
6 Months	Panel presents its final report to parties
3 Weeks	Panel presents its final report to WTO members
60 Days	Dispute Settlement Body (DSB) adopts report (in the absence of appeal)
Total = 1 Year	If no appeal
60 to 90 Days	Appellate Review report
30 Days	DSB adopts the Appellate review
Total = 1 Year and 3 Months	If a party appeals

Source: Understanding the WTO: Settling Disputes

15.3.3 Arbitration

Members may seek arbitration within the WTO as an alternative means of dispute settlement "to facilitate the solution of certain disputes that concern issues that are clearly defined by both parties." Those parties must reach mutual agreement to arbitration and the procedures to be followed. Agreed arbitration must be notified to all members prior to the beginning of the arbitration process. Third parties may become party to the arbitration "only upon the agreement of the parties that have agreed to have recourse to arbitration." The parties to the proceeding must agree to abide by the arbitration award. "Arbitration awards shall be notified to the DSB and the Council or Committee of any relevant agreement where any member may raise any point relating thereto."

15.4 Cross-retaliation under the WTO Dispute Settlement Mechanism involving TRIPS Provisions

Under the World Trade Organization's (WTO) Dispute Settlement Understanding (DSU), a complainant party may suspend benefits under the WTO Agreements if the respondent party has not come into compliance with its obligations under the

WTO Agreements as determined by the WTO Dispute Settlement Body (DSB). The WTO's DSU provides in certain circumstances for "cross-retaliation" by complainant parties – suspending benefits relating to WTO Agreements or sectors not the subject of the underlying dispute. Some countries have proposed to cross-retaliate by suspending obligations under the WTO's Agreement on Trade-Related Aspects of Intellectual Property (TRIPS).

15.4.1 Cross-retaliation involving intellectual property (IP) rights (TRIPS)

According to Article 64 of TRIPS, the DSU applies to the settlement of disputes under TRIPS, with the exceptions established therein. Further, Appendix 1 of the DSU expressly mentions TRIPS as one of the agreements covered by the DSU. Therefore, the DSB authorizes the suspension of rights and obligations under TRIPS as a result of commercial disputes before the WTO.

Two legal questions have been raised in this context:

1. *Whether suspension of rights and obligations under TRIPS would affect obligations under WIPO Treaties?*

Article 2.2 of TRIPS states that

"Nothing in Parts I to IV of this Agreement shall derogate from existing obligations that Members have to each other under the Paris Convention, the Berne Convention, the Rome Convention and the Treaty on Intellectual Property in Respect of Integrated Circuits."

Although the DSU is mentioned in Part V of TRIPS, the substantive provisions of those Conventions are embodied in TRIPS, and almost all TRIPS members are also parties to those Conventions. So it would appear that TRIPS obligations incorporating by reference provisions under WIPO Conventions can be suspended under the DSU. However, the effect of the suspension of TRIPS obligations on WTO members' obligations under corresponding WIPO Conventions remains unclear as demonstrated by the DSB ruling in the Ecuador vs. EC dispute (DS27) below:

"The Suspension of TRIPS Obligations and the Relation with the Conventions Administered by World Intellectual Property Organization (WIPO)

(...)It is not within our jurisdiction as Arbitrators, acting pursuant to Article 22.6 of the DSU, to pass judgment on whether Ecuador, by suspending, once authorized by the DSB, certain TRIPS obligations, would act inconsistently with its international obligations arising from treaties other than the agreements covered by the WTO (e.g. the Paris, Berne and Rome Conventions which Ecuador has ratified). It is, if at all, entirely for Ecuador and the other parties to such treaties to consider whether a specific form chosen by Ecuador for implementing such suspension of certain TRIPS obligations gives rise to difficulties in legal or practical terms under such treaties."

In that case, arbitrators preferred to avoid issuing an opinion on the impact of such suspension on WIPO Conventions, leaving the matter to be handled by national courts, following international law rules such as the Vienna Convention on the Law of Treaties, depending on whether the supposedly violated treaty is prior to the WTO Agreement or not, among other circumstances. The situation is equally complex in relation to suspension of IP rights *vis-a-vis* complainants' obligations under bilateral or regional agreements.

2. *The application of the national treatment principle provided for in TRIPS in relation to cross-retaliation measures*

Article 22.3(f) (iii) of the DSU indicates which categories of IP rights may be suspended, and it excludes Part I of TRIPS, where the national treatment and most-favored nation provisions can be found (Articles 3 and 4). One can therefore conclude that these two provisions do not apply in cases of suspension of IP rights under the DSU.

15.4.2 Practical considerations

The DSB authorized suspension of IP rights in the Ecuador vs. EC (bananas) and Antigua & Barbuda vs. US disputes (gambling services) as well as in the Brazil vs. US dispute (cotton), but suspension of IP rights has never taken place.

Despite the lack of concrete cases, ICC has tried to identify some special circumstances and problems raised by cross-retaliation by means of the suspension of rights and obligations under TRIPS in the context of WTO disputes.

1) *Uncertainty as to whether suspension of IP rights generates compliance with WTO obligations*

When the complainant wins the dispute and the offending party does not comply with the decision, the complainant can threaten the offending country with commercial sanctions. The DSU recommends that sanctions should occur in the same sector or under the same WTO agreement to which the dispute refers, and only exceptionally in another sector and under another agreement.

It has been argued that economically small countries would have little leverage by applying commercial sanctions against a much larger country because the competitive impact on the larger country may be too small to promote compliance, so they would prefer to threaten the offending country with the suspension of obligations under TRIPS.

In view of the small number of cases where suspension of IP rights was allowed and the lack of implementation of such suspension so far, it is premature to affirm that suspension or the threat of suspension of IP rights will induce compliance with WTO rules by the offending country.

2) *The required temporary effect of the suspension of IP rights*

According to Article 22, paragraph 8, of the DSU, such suspension must be temporary and must last only until the defaulting party complies with the DSB's decision, until the measure found to be inconsistent with the WTO agreement is removed or until the parties find a mutually agreed solution to the dispute.

Since the suspension is temporary, the IP owners' rights must be restored after a limited time. Some of the problems that may arise are set out below.

❖ Owners of suspended rights may suffer permanent damage that restoration cannot amend; for example, they might not be able to retrieve lost reputations, or patent terms will be reduced in the event there is no interruption of the patent life during the suspension period.

❖ It is impossible to ensure that a suspension relating to TRIPS obligations would have effects only during the temporary period allowed. Goods manufactured or copyrighted material released freely during the suspension period might still be available, in the market or in stock after the restoration of IP rights, so legitimate products/works would coexist with non-legitimate ones in the market, thus creating confusion and prejudice to consumers.

❖ Due to the uncertain and transitory nature of the suspension, companies or individuals might be unwilling to risk manufacturing any goods, despite the "free

use" period. This can result in lack of supply of certain goods in the market; as regards pharmaceuticals, for example, public health problems may occur.

❖ The lack of protection for IP rights, although temporary, may also discourage foreign investment in the country. Technological IP assets are developed and commercialized within a mid to long-term time frame. Instead of spurring short term action, a suspension will create concerns about the complainant party's innovation policy.

3) *The required proportionality between the level of suspension and the damage suffered*

According to Article 22, paragraph 4, of the DSU, the level of suspension of rights and obligations authorized by the DSB must be equivalent to the damage suffered by the complainant in the dispute.

As far as IP rights are concerned, this equivalence is not very easily calculated. In the hypothetical situation of damages equal to one million dollars, the "amount" of IP rights to be suspended, if cross-retaliation were permitted, would have to be equivalent to one million dollars. Questions that can arise include:

➤ It is not easy to calculate the equivalence between the countermeasure to be taken and damages suffered. Some types of countermeasures, such as the suspension of the remittance of royalties until the total amount of damage is reached, may make calculation easier than other possible punitive measures in the area of IP.

➤ Although analysts can determine the value of a patent or mark, this valuation may not be accurate enough to determine a fair balance between damages and countermeasures to be taken.

➤ It is not easy to measure, for example, the economic impact of an illegally uploaded copyrighted file on the economic value chain/downstream markets.

➤ It is not easy to calculate in numerical terms the negative impact of the countermeasure on a company's goodwill and reputation, as a result of the temporary suspension of its IP rights and free circulation of illegitimate goods in the market.

4) *Possible damage affecting parties not involved in the dispute*

All market players – including those in the complainant country as well as those in third countries not targeted by retaliation – will suffer when IP rights are suspended.

➤ In the medium to long term, impairment of IP and derived revenue flows hastens the progression from a high return technology domain for all players towards a commodity sector. This defeats the investment expectations of all players, regardless of origin, and punishes those companies that invest in innovation and creativity without regard for nationality. Competitors located in the complainant's country will be constrained in their ability to commercialize their R&D spending through IP. As a result, they will suffer the consequences of IP impairment through price and margin erosion. There is no evidence that reversing the ageing of a market once it has achieved commodity status is possible.

➤ Retaliation using trademarks and geographical indications would hurt consumers in the complainant country because both of them provide important signals to consumers about product quality, brand reputation, and in some cases after-market service. Additionally, depending upon national grey market rules, counterfeit trademarked goods from a complainant country may leak into neighboring countries.

➤ Retaliation could also negatively affect entities in the complainant country that have relied upon a stable intellectual property regime – for example licensees, distributors, and retailers of products protected by IP rights – as well as global supply chains.

➤ Retaliation against copyrighted works, for example, would implicate the creative industries in other territories not only because so many works are co-produced across multiple jurisdictions but because illegal copies in one market could suppress legitimate sales in other markets, particularly digital copies. Therefore, the suspension of IP rights would implicate markets beyond the country targeted.

➤ The reputation of the complainant country as an R&D platform for innovation and creativity will suffer, hampering its long-term prospects for economic development. For commercial enterprises, the ability to obtain and commercialize the IP assets resulting from innovation and creativity in a predictable and stable legal environment is critical. Singling IP out for retaliation

sends a profoundly negative signal to innovators and creators, both local and foreign, that the complainant will punish innovation when other sectors disappoint. One immediate effect of these measures will likely be a reduction in foreign investment and filings of applications for IP protection in the complainant's jurisdiction. This will weaken the very individuals and institutions charged with helping translate R&D investment into new technologies and products locally.

15.5 Dispute Settlement Mechanism under WTO: Implications for Developing Countries

As one of the major outcomes of the Uruguay Round, the WTO Dispute Settlement Understanding (DSU) is regarded as one of the central pillars of today's multilateral trading regime. It is expected that this new rule-oriented dispute settlement mechanism (DSM) can replace the GATT's power-based dispute resolution system, thus can bring more equality and protection to developing countries. Some researches support this claim. According to Holmes, Rollo and Young, in the DSM of the WTO, there is no strong evidence of a bias against developing countries either as complainants or respondents. In other words, the new DSM enhances equality between developing member countries and developed ones.

However, there are also suspicious voices questioning whether the DSM can be really impartial. The fact that developing countries usually find themselves in a weaker position in the WTO compared with industrialized members may indicate that the DSM needs to contribute more efforts to improving the equality status of developing countries. Besson and Mehdi, through their empirical research, conclude that the DSU procedure is biased against developing countries. Shaffer points out three primary challenges to equality that developing countries have to face in the new DSM, including lack of legal expertise, constrained financial resources and political and economic pressures. Hoekman and Mavroidis also argue that the WTO inherits all of the asymmetries that arise when there are substantial differences in bargaining power, since it rests on decentralized enforcement of international obligations.

15.5.1 Benefits for Developing Countries

The Uruguay Round reforms have brought great influence on developing countries' participation and performance in the WTO dispute settlement system. The establishment of a single organizational forum for managing disputes with formalized procedures and greater legal transparency certainly has brought about many positive results that improve the equality status of developing countries.

How the new DSM Enhances Equality: On the one hand, the new DSM in the WTO is a multilateral mechanism for dispute resolution, which provides developing countries with a more favorable environment than that under the bilateral mechanism. Under the rule-based DSM, all the members, no matter they are weak or strong, have the right to resort to the DSM to seek fair and reasonable resolutions for their trade disputes, which is a law-protected equality. The mechanism reduces the instability arising from countries' unilateral actions. And it also increases the transparency of the dispute settlement procedure thus help enhance the fairness.

Improvement in Bargaining Power

The new DSM improves the bargaining power of developing countries. The system is based on formal legalized rules, thus members are "equal" in front of the law. Even the superpowers need to abide by the regulations. Thus developing countries gain more equality, and hence more power for equal bargaining. Just as Cameron and Campbell argue, resolving disputes through a judicial route is "particularly beneficial for smaller countries, as without the rules and procedures of the DSU and the extensive obligations in the WTO agreements, they would not have the necessary bargaining power vis-à-vis the larger powers." For instance, Brazil had not pursued a complaint against the EU under the GATT system since it knew the complaint would be blocked. However, under the new WTO mechanism, Brazil notified the EU that it would bring the dispute to the DSB for formal consultation, which is the first step of the WTO dispute settlement procedure. A few days later, the EU made concessions that it had previously held as impossible, and the dispute was resolved. Furthermore, while the GATT system might cripple weaker countries' bargaining power by its "positive consensus" rule, the new WTO DSM improves the situation through the "negative consensus" framework, which greatly reduces the possibility of blockage.

Independence to Developing Countries

Second, from the angle of independence, under the power-based GATT system, the independence of developing countries was eroded because of their economic and political "dependence" on developed countries. Sometimes they could hardly express their real attitudes. Under the new WTO DSM, as a contrast, a certain level of independence is guaranteed by the fixed legal regulation system. Thus the rule-based arrangements for dispute resolution tend to produce more equal outcomes, mitigating power/wealth disparities.

General Spirit of Compliance with the DSM Result

The general spirit of compliance with the result of the DSM is another optimistic indicator of improved equality. In this rule-based system, the major powers in international trade have indicated that "they will comply with the mandates of the Dispute Settlement reports when they are finalized and formally adopted." And even the most powerful players cannot defy the final rulings without risking harm to the institution. When developing countries file complaints against developed ones to the DSB, even if the result is negative to the developed side, the recommendations or rulings can still be implemented. This situation tends to "reduce asymmetries in post-agreement bargaining power" and enhance developing countries' equality status in the phase of rulings implementation. Besides, countries now get easier access to countermeasures provided through cross-retaliation, which makes developing countries able to impose pressure on developed ones. Thus, as developing members have more assurance as to the implementation situation of the DSM results, their equality status in the system is improved.

Provisions Providing Special Favorable Conditions to Developing Countries

Considering the concrete DSU provisions, because of the increasing concern on developing countries' particular needs and interests, the DSU provides plenty of provisions offering special favorable conditions to developing countries through the whole dispute settlement procedure. Thus developing countries can enjoy more equality with developed countries. Article 4.10 of the DSU calls for members to pay special attention to the particular problems and interests of developing countries in consultations. Article 12.10 allows for the extension of the consultation time-period. Article 8.10 states that a developing country involved in a dispute can request that the panel includes at least one panelist from a developing

member country if the other side is a developed state. And Article 12.11 provides that the panel report must indicate the form in which the special and differential treatment rules of the DSU have been taken into account, if a developing country member involved in a dispute raises such rules. At the stage of implementation, according to Article 21.2 of the DSU, particular attention should be paid to matters affecting developing countries interests.

As to surveillance, Article 21.8 states that if a case is brought by a developing country, the DSB needs to take into consideration not only the trade coverage of the challenged measures, but also their impact on the economy of the developing country concerned. Furthermore Article 27.2 requires the WTO Secretariat to make available legal expertise assistance from the WTO technical cooperation services to any developing member upon its request. And Article 24.1 calls for due restraint in bringing disputes against a least-developed country (LDC) and in asking for compensation or seeking authorization to suspend obligations against a LDC that has lost a dispute.

15.5.2 Obstacles for Developing Countries

Moon's research shows that under the new DSM of the WTO, developing countries now are much more frequently taken to court by developed countries, as the percentage of "developed countries as complaints and developing countries as defendants" increased considerably from 9.5% under the GATT system to 28.1% under the WTO mechanism. Reinhardt and Busch find out that "developing countries are one third less likely to file complaints against developed states under the WTO than they were under the post-1989 GATT regime."

High Costs and Limited Resource Availability

First, the costs of access of the DSM are very high. And compared with developed states, developing countries actually have fewer resources to invest to defend their WTO rights. It is usually a long process for the WTO to settle a trade dispute through the DSM.

Except for the litigation costs, countries initiating disputes in the DSM face income losses from hindered trade during the dispute investigation period. For developing countries, especially those highly relying on their limited exports for national

incomes, these potential income and market losses may be more unbearable than the litigation bills.

Limited Legal Resources

Except for financial investments, legal resources, especially the legal expertise, are also essential for WTO dispute settlement. Actually, the shortage of special expertise, personnel and information for legal activities is an important reason why developing countries are suffering inequality and unfavorable outcomes in the DSM. Industrialized states such as the US and the EU, also the major players in the WTO, are well equipped with legal experts in the area of the WTO legal system, and they have a worldwide network of commercial and diplomatic representation that feeds their systems with relevant data. In contrast, developing countries have limited legal expertise and it is harder for them to collect data and information because of the lack of networks. Many developing countries have only one or two lawyers to address WTO issues.

Inequality Stemming from Power-Based International Relations

The other kind of sources of inequality is about international relations among countries. The WTO is an international organization, the establishment and operation of which are made possible only if member countries are willing to give up a part of their sovereignty to make the institutional contract. This means actions of the WTO may be inevitably influenced by the international political and economic interactions. The DSM is also unexceptional. As what Moon points out, at the law-making stage for establishing the DSM, weaker states have to make concessions to stronger countries for the latter's acceptance of a rule-based system, the result of which is the agreements advantageous to stronger actors.

Inadequate Compensation

The WTO retaliation mechanism prescribes that complaints cannot unilaterally take retaliatory actions unless the DSB makes decisions and permits them to, which means that the defendant side is able to violate the WTO laws and hurt the other side's interests during the long time-period, until the WTO recognizes and decides to take action to correct the violations. With economic strength, developed countries can relatively easily affect developing economies even just in a short time. Thus it is possible that before the DSB authorize them to impose trade sanctions the developing countries' domestic markets and internal economic

capabilities have already been badly harmed. For those small developing states, this situation may be even worse.

Even if a developing country as complaint wins in a dispute, the compensation methods under the DSM are limited. Usually it comes out in the forms that the losing defendant withdraws the measures found inconsistent with WTO law, or the winning complaint gets authorization from the DSB to impose limited trade sanctions. Under the current "retaliation-as-compensation" approach, there is no room for retroactive compensation or punishment measures that can help developing countries make up for its previous economic losses that have been already caused before the decision is made.

Even if the defendant side corrects its action after the dispute, the complaint still has to assume the economic losses generated before the correction. For developing countries particularly, while their economies are generally weak and vulnerable to outside impact, such burden may be too heavy for them to bear.

Lack of Enforcement Capability

It is also arguable whether developing countries possess adequate enforcement capability to fully implement the WTO rulings or recommendations even if the results are favorable to them. Under the DSM, the final dispute settlement decisions are supposed to be implemented on a decentralized, bilateral basis. The DSM relies entirely on state power for enforcement of its rulings. It may be hard for a developing country to raise tariff rates on certain products imported from a developed country, even if it is authorized to, since this action may hurt itself in turn at the end. With a relatively weak economy, a developing country may depend on certain imports from developed countries for development; if the products included in the retaliation are actually essential for its own growth, it can hardly be expected that the developing country will really deter or limit the imports. But considering the other side since most developing countries' markets and economic power are relatively small and weak, whether or not they take retaliatory actions to developed countries' products does not bring much difference to the developed economies, unless they retaliate in alliance, which does not usually happen. Thus, while the retaliatory actions taken by developing countries to developed states cannot bring much danger or worries to the latter but may incur negative consequences to the users themselves, developing countries actually do not possess

real equality with developed countries because of the asymmetry of enforcement capabilities.

The DSU Provisions – Inequality behind the Articles

The WTO expanded its coverage to areas such as investment (Agreements on Trade- Related Aspect of Investment Measures, TRIMs), intellectual property rights protection (Agreements on Trade- Related Aspect of Intellectual Property Rights, TRIPs), service trade (General Agreements on Trade in Services, GATS), etc. Because of these agreements, disputes in these areas now can be brought into the DSM. While most of the agreements reflect developed countries' interests, developing countries are actually in an unequal position. On the other hand, analyzing the special DSU provisions which aim at improving developing countries' status, it is found that they are more declarative than operative.

For instance, the Article 4.10 requires that special attention should be paid to the particular problems and interests of developing countries during consultation phase. But this article does not point out concretely on what specific aspects and to what extent the "special attention" should be paid. Since there is no specific implementation measure, in practice it is hard to evaluate whether member countries have really and adequately complied with this provision. And Article 21.2 has the similar problem.

Furthermore, several other provisions regarding special and differential treatment may be difficult to apply, though they seem to be favorable to developing countries. For example, Article 21.7 states that the DSB must consider what further and appropriate action it might take in addition to surveillance and status reports, if a developing country has raised the matter. But it has not been used by any developing country.

15.6 Summary

TRIPS has made disputes between WTO members with respect to the Agreement's obligations subject to the WTO's integrated dispute settlement procedures. WTO disputes are always state-to-state disputes. In other words, disputes are not about individual IPRs infringement cases, but are about disagreements between governments on whether a country's laws and regulations meet the TRIPS requirements. In case a WTO member is found to violate its obligations,

complaining governments obtain the right to impose trade sanctions in the form of punitive tariffs.

The DSM of the WTO is a multilateral rule-oriented mechanism. Although many problems still exist, with its recently acknowledged special concern about developing countries' particular needs and interests, it has brought about many positive and favorable changes to developing member countries' status. From the perspective of equality, weaker states now possess a relatively better environment and more power to defend their WTO interests through this new dispute settlement system.

However, developing countries still do not enjoy a really neutral playing field where they can really trade equitably and efficiently with developed states. Though the DSU provisions are not biased literally, developing countries are not able to fully take advantage of the DSM in practice, even if certain provisions are supposed to favor them in principle. The analysis of the experiences of developing nations throughout the evolution of the dispute settlement procedure demonstrates the particular challenges developing nations have faced under the GATT procedure and then under the WTO DSM. Since the large increase in their GATT membership in the 1960s, developing nations have supported a strong dispute settlement procedure to ensure a better level of compliance by all nations. Their participation in the dispute settlement process has gradually changed from fairly insurmountable difficulties in bringing claims and enforcing rulings (through lack of economic and political influence) to a situation where confidence in the renovated system is apparent through increased use and reliance on a structure of legal and procedural disciplines ensuring a degree of certainty.

15.7 Self Assessment Test

1. Explain the jurisdiction of WTO and also mention bodies formed in WTO in relation to dispute settlement mechanism?
2. Discuss the dispute settlement procedure in WTO.
3. What does the term "*Cross-retaliation*" mean? How does it affect the provisions of the TRIPS?

4. Describe the benefits arising due to dispute settlement mechanism under WTO for developing countries?
5. What are the obstacles for developing countries in the dispute settlement mechanism under WTO?

15.8 Further Readings

1. World Trade Organization, "European Communities Regime for the Importation, Sale and Distribution of Bananas," Report of the Panel.
2. Jared R. Silverman, "Multilateral Resolution Over Unilateral Retaliation: Adjudicating the Use of Section 301 before the WTO," University of Pennsylvania Journal International Economic Law.
3. "Overview of Disputes" <http://www.wto.org/wto/dispute/bulletin.htm>.
4. Amrita Narlikar, The World Trade Organization: A Very Short Introduction.

Unit 16

IPR – Relating to Disputes Settlement – National Aspects or Nationally

Objectives:

After going through this unit, you should be able to understand the mechanism of dispute settlement at WTO and its benefits to the developing countries; you will also be able to analyze the problems faced by the developing countries.

Structure:

- 16.1 Introduction
 - 16.2 Dispute Settlement Mechanism in India
 - 16.2.1 Dispute Settlement Mechanism Relating to Patents
 - 16.2.2 Dispute Settlement Mechanism Relating to Copyrights
 - 16.2.3 Dispute Settlement Mechanism Relating to Designs
 - 16.2.4 Dispute Settlement Mechanism Relating to Geographical Indications
 - 16.3 Summary
 - 16.4 Self Assessment Test
 - 16.5 Further Readings
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16.1 Introduction

An important feature of the TRIPS Agreement is that it provides an operational system for the settlement of disputes between governments of Members about compliance with their respective obligations relating to intellectual property rights. Pre-existing international law in this area did not provide any practical means of recourse, at the multilateral level, to a government that believed that another government was not respecting its treaty obligations. Now, Member governments who wish to take action against an alleged violation of a TRIPS obligation have recourse to the multilateral WTO dispute settlement procedures in order to obtain a satisfactory settlement of the matter. These procedures also apply to alleged violations of the provisions of the Berne and Paris Convention, and other treaties, where incorporated in the TRIPS Agreement.

Module I described how the Council for TRIPS is the body, open to all Members of the WTO, that has responsibility for the administration of the TRIPS Agreement, in particular for monitoring the operation of the Agreement. The Council also constitutes a forum for consultations on any problems relating to TRIPS arising between Members as well as for clarifying and interpreting provisions of the TRIPS Agreement. The aim is, whenever possible, to resolve differences between Members without the need for formal recourse to dispute settlement. The TRIPS Agreement promotes transparency by requiring Members to publish laws and regulations and final judicial decisions and administrative rulings of general application made effective by a Member pertaining to the subject matter of the Agreement. Relevant bilateral and other agreements must also be published (Article 63.1).

This innovative and creative capacity is protected under the intellectual property system of WTO. Recognizing this fact, India as a founder member of WTO has ratified the Agreement on Trade Related Intellectual Property Rights (TRIPS). As per the agreement, all member countries including India are to abide by the mutually negotiated norms and standards within the stipulated time-frame. Accordingly, India has set up an Intellectual Property Right (IPR) regime, which is WTO compatible and is well established at all levels whether statutory, administrative or judicial.

The Government has taken a comprehensive set of initiatives to streamline the intellectual property administration in the country in view of its strategic significance. In the Ministry of Commerce and Industry, the office of the 'Controller General of Patents, Designs and Trade Marks (CGPDTM)' has been set up under the Department of Industrial Policy and Promotion.

It administers all matters relating to patents, designs, trademarks and geographical indications and also directs and supervises the functioning of:-

- The Patent Office (including Designs Wing)
- The Patent Information System (PIS)
- The Trade Marks Registry (TMR), and
- The Geographical Indications Registry (GIR)

Besides, a 'Copyright Office' has been set up in the Department of Education of the Ministry of Human Resource Development, to provide all facilities including registration of copyrights and its neighboring rights.

As far as issues relating to layout design of integrated circuits are concerned, 'Department of Information Technology' in the Ministry of Information Technology is the nodal organization. While, 'Protection of Plant Varieties and Farmers' Rights Authority' in Ministry of Agriculture administers all measures and policies relating to plant varieties.

For complementing the administrative set up, several legislative initiatives have been taken. It includes, the Trade Marks Act, 1999; the Geographical Indications of Goods (Registration and Protection) Act 1999; the Designs Act, 2000; the Patents Act, 1970 and its subsequent amendments in 2002 and 2005; Indian Copyright Act, 1957 and its amendment Copyright (Amendment) Act, 1999; Semiconductor Integrated Circuit Layout Design Act, 2000; as well as the Protection of Plant varieties and Farmer's Rights Act, 2001

16.2 Dispute Settlement Mechanism in India

16.2.1 Dispute Settlement Mechanism Relating to Patents

The chapter 18 of the Patents Act, 1970 is related to the dispute settlement mechanism. It makes provisions regarding the jurisdiction, powers of the court, remedies etc. the chapter 19 is related to Appeals and chapter 20 provides the penalties.

Suits Concerning Infringement of Patents

104. Jurisdiction.—No suit for a declaration under Section 105 or for any relief under Section 106 or for infringement of a patent shall be instituted in any court inferior to a district court having jurisdiction to try the suit:

Provided that where a counter-claim for revocation of the patent is made by the defendant, the suit, along with the counter-claim, shall be transferred to the High Court for decision.

105. Power of court to make declaration as to non-infringement.—(1) Notwithstanding anything contained in Section 34 of the Specific Relief Act, 1963 (47 of 1963), any person may institute a suit for a declaration that the use by him of any process, or the making, use or sale of any article by him does not, or would

not, constitute an infringement of a claim of a patent against the patentee or the holder of an exclusive licence under the patent, notwithstanding that no assertion to the contrary has been made by the patentee or the licensee, if it is shown—

(a) that the plaintiff has applied in writing to the patentee or exclusive licensee for a written acknowledgment to the effect of the declaration claimed and has furnished him with full particulars in writing of the process or article in question; and

(b) that the patentee or licensee has refused or neglected to give such an acknowledgment.

(2) The costs of all parties in a suit for a declaration brought by virtue of this section shall, unless for special reasons the court thinks fit to order otherwise, be paid by the plaintiff.

(3) The validity of a claim of the specification of a patent shall not be called in question in a suit for declaration brought by virtue of this section, and accordingly the making or refusal of such a declaration in the case of a patent shall not be deemed to imply that the patent is valid or invalid.

(4) A suit for a declaration may be brought by virtue of this section at any time after the date of advertisement of acceptance of the complete specification of a patent, and references in this section to the patentee shall be construed accordingly.

106. Power of court to grant relief in cases of groundless threats of infringement proceedings.—

(1) Where any person (whether entitled to or interested in a patent or an application for patent or not) threatens any other person by circulars or advertisements or by communications, oral or in writing addressed to that or any other person, with proceedings for infringement of a patent, any person aggrieved thereby may bring a suit against him praying for the following reliefs, that is to say—

(a) a declaration to the effect that the threats are unjustifiable;

(b) an injunction against the continuance of the threats; and

(c) such damages, if any, as he has sustained thereby.

(2) Unless in such suit the defendant proves that the acts in respect of which the proceedings were threatened constitute or, if done, would constitute, an infringement of a patent or of rights arising from the publication of a complete specification in respect of a claim of the specification not shown by the plaintiff to be invalid the court may grant to the plaintiff all or any of the reliefs prayed for.

Explanation.—A mere notification of the existence of a patent does not constitute a threat of proceeding within the meaning of this section.

107. Defences, etc., in suits for infringement.—(1) In any suit for infringement of a patent every ground on which it may be revoked under Section 64 shall be available as a ground for defence.

(2) In any suit for infringement of a patent by the making, using or importation of any machine, apparatus or other article or by the using of any process or by the importation, use or distribution of any medicine or drug, it shall be a ground for defence that such making, using, importation or distribution is in accordance with any one or more of the conditions specified in Section 47.

108. Reliefs in suit for infringement.—The reliefs which a court may grant in any suit for infringement include an injunction (subject to such terms, if any, as the court thinks fit) and, at the option of the plaintiff, either damages or an account of profits.

109. Right of exclusive licensee to take proceedings against infringement.—(1) The holder of an exclusive licence shall have the like right as the patentee to institute a suit in respect of any infringement of the patent committed after the date of the licence, and in awarding damages or an account of profits or granting any other relief in any such suit the court shall take into consideration any loss suffered or likely to be suffered by the exclusive licensee as such or, as the case may be, the profits earned by means of the infringement so far as it constitutes an infringement of the rights of the exclusive licensee as such.

(2) In any suit for infringement of a patent by the holder of an exclusive licence under sub-section (1), the patentee shall, unless he has joined as a plaintiff in the suit, be added as a defendant, but a patentee so added as defendant shall not be liable for any costs unless he enters an appearance and takes part in the proceedings.

110. Right of licensee under Section 84 to take proceedings against infringement.—Any person to whom a licence has been granted under Section 84 shall be entitled to call upon the patentee to take proceedings to prevent any infringement of the patent, and, if the patentee refuses or neglects to do so within two months after being so called upon, the licensee may institute proceedings for the infringement in his own name as though he were the patentee, making the

patentee a defendant; but a patentee so added as defendant shall not be liable for any costs unless he enters an appearance and takes part in the proceedings.

111. Restriction on power of court to grant damages or account of profits for infringement.—(1) In a suit for infringement of a patent, damages or an account of profits shall not be granted against the defendant who proves that at the date of the infringement he was not aware and had no reasonable grounds for believing that the patent existed.

Explanation.—A person shall not be deemed to have been aware or to have had reasonable grounds for believing that a patent exists by reason only of the application to an article of the word “patent”, “patented” or any word or words expressing or implying that a patent has been obtained for the article, unless the number of the patent accompanies the word or words in question.

(2) In any suit for infringement of a patent the court may, if it thinks fit, refuse to grant any damages or an account of profits in respect of any infringement committed after a failure to pay any renewal fee within the prescribed period and before any extension of that period.

(3) Where an amendment of a specification by way of disclaimer, correction or explanation has been allowed under this Act after the publication of the specification, no damages or account of profits shall be granted in any proceeding in respect of the use of the invention before the date of the decision allowing the amendment, unless the court is satisfied that the specification as originally published was framed in good faith and with reasonable skill and knowledge.

(4) Nothing in this section shall affect the power of the court to grant an injunction in any suit for infringement of a patent.

112. Restriction on power of court to grant injunction in certain cases.—If in proceedings for the infringement of a patent endorsed or deemed to be endorsed with the words “Licences of right” (otherwise than by the importation of the patented article from other countries) the infringing defendant is ready and willing to take a licence upon terms to be settled by the Controller as provided in Section 88, no injunction shall be granted against him, and the amount if any recoverable against him by way of damages shall not exceed double the amount which would have been recoverable against him as licensee if such a licence had been granted before the earliest infringement.

113. Certificate of validity of specification and costs of subsequent suits for infringement thereof.—(1) If in any proceedings before a High Court for the revocation of a patent under Section 64 the validity of any claim of a specification is contested and that claim is found by the court to be valid, the court may certify that the validity of that claim was contested in those proceedings and was upheld.

(2) Where any such certificate has been granted, then, if any subsequent suit before a court for infringement of that claim of the patent or in any subsequent proceeding for revocation of the patent in so far as it relates to that claim, the patentee or other person relying on the validity of the claim obtains a final order or judgment in his favour, he shall be entitled to an order for the payment of his full costs, charges and expenses of and incidental to any such suit or proceeding properly incurred so far as they concern the claim in respect of which the certificate was granted, unless the court trying the suit or proceeding otherwise directs:

Provided that the costs as specified in this sub-section shall not be ordered when the party disputing the validity of the claim satisfies the court that he was not aware of the grant of the certificate when he raised the dispute and withdrew forthwith such defence when he became aware of such a certificate.

(3) Nothing contained in this section shall be construed as authorising courts hearing appeals from decrees or orders in suits for infringement or petitions for revocation to pass orders for costs on the scale referred to therein.

114. Relief for infringement of partially valid specification.—(1) If in proceedings for infringement of a patent it is found that any claim of the specification, being a claim in respect of which infringement is alleged, is valid but that any other claim is invalid, the court may grant relief in respect of any valid claim which is infringed:

Provided that the court shall not grant relief except by way of injunction save in the circumstances mentioned in sub-section (2).

(2) Where the plaintiff proves that the invalid claim was framed in good faith and with reasonable skill and knowledge, the court shall grant relief in respect of any valid claim which is infringed subject to the discretion of the court as to costs and as to the date from which damages or an account of profits should be reckoned, and in exercising such discretion the court may take into consideration the conduct of the parties in inserting such invalid claims in the specification or permitting them to remain there.

115. Scientific advisers.—(1) In any suit for infringement or in any proceeding before a court under this Act, the court may at any time, and whether or not an application has been made by any party for that purpose, appoint an independent scientific adviser to assist the court or to inquire and report upon any such question of fact or of opinion (not involving a question of interpretation of law) as it may formulate for the purpose.

(2) The remuneration of the scientific adviser shall be fixed by the court and shall include the costs of making a report and a proper daily fee for any day on which the scientific adviser may be required to attend before the court, and such remuneration shall be defrayed out of moneys provided by Parliament by law for the purpose.

Appeals

116. Appeals.—(1) No appeal shall lie from any decision, order or direction made or issued under this Act by the Central Government, or from any act or order of the Controller for the purpose of giving effect to any such decision, order or direction.

(2) Save as otherwise expressly provided in sub-section (1), an appeal shall lie to a High Court from any decision, order or direction of the Controller under any of the following provisions, that is to say—

Section 15, Section 16, Section 17, Section 18, Section 19, Section 20, Section 25, Section 27, Section 28, Section 51, Section 54, Section 57, Section 60, Section 61, Section 63, sub-section (3) of Section 69, Section 78, Section 84, Section 86, Section 88(3), Section 89, Section 93, Section 96 and Section 97.

(3) Every appeal under this section shall be in writing and shall be made within three months from the date of the decision, order or direction, as the case may be, of the Controller, or within such further time as the High Court may in accordance with the rules made by it under Section 158 allow.

117. Procedure for hearing of appeals.—(1) Every appeal before a High Court under Section 116 shall be by petition and shall be in such form and shall contain such particulars as may be prescribed by rules made by the High Court under Section 158.

(2) Every such appeal shall be heard by a single Judge of the High Court :

Provided that any such Judge may, if he so thinks fit, refer the appeal at any stage of the proceeding to a Bench of the High Court.

(3) Every such appeal shall be heard as expeditiously as possible and endeavour shall be made to decide the appeal within a period of twelve months from the date on which it is filed.

Penalties

118. Contravention of secrecy provisions relating to certain inventions.—If any person fails to comply with any direction given under Section 35 ⁽⁸⁾[***] he shall be punishable with imprisonment for a term which may extend to two years, or with fine, or with both.

119. Falsification of entries in register, etc.—If any person makes, or causes to be made, a false entry in any register kept under this Act, or a writing falsely purporting to be a copy of an entry in such a register, or produces or tenders, or causes to be produced or tendered, in evidence any such writing knowing the entry or writing to be false, he shall be punishable with imprisonment for a term which may extend to two years, or with fine, or with both.

120. Unauthorised claim of patent rights.—If any person falsely represents that any article sold by him is patented in India or is the subject of an application for a patent in India, he shall be punishable with fine which may extend to five hundred rupees.

Explanation 1.—For the purposes of this section, a person shall be deemed to represent—

(a) that an article is patented in India if there is stamped, engraved or impressed on, or otherwise applied to, the article the word “patent” or “patented” or some other word expressing or implying that a patent for the article has been obtained in India;

(b) that an article is the subject of an application for a patent in India, if there are stamped, engraved or impressed on, or otherwise applied to, the article the words “patent applied for”, “patent pending”, or some other words implying that an application for a patent for the article has been made in India

Explanation 2.—The use of words “patent”, “patented”, “patent applied for”, “patent pending” or other words expressing or implying that an article is patented or that a patent has been applied for shall be deemed to refer to a patent in force in India, or to a pending application for a patent in India, as the case may be, unless there is an accompanying indication that the patent has been obtained or applied for in any country outside India.

121. Wrongful use of words "patent office".—If any person uses on his place of business or any document issued by him or otherwise the words "patent office" or any other words which would reasonably lead to the belief that his place of business is, or is officially connected with, the patent office, he shall be punishable with imprisonment for a term which may extend to six months, or with fine, or with both.

122. Refusal or failure to supply information.—(1) If any person refuses or fails to furnish—

(a) to the Central Government any information which he is required to furnish under sub-section (5) of Section 100,

(b) to the Controller any information or statement which he is required to furnish by or under Section 146,

he shall be punishable with fine which may extend to one thousand rupees.

(2) If any person, being required to furnish any such information as is referred to in sub-section (1), furnishes information or statement which is false, and which he either knows or has reason to believe to be false or does not believe to be true, he shall be punishable with imprisonment which may extend to six months, or with fine, or with both.

123. Practice by non-registered patent agents.—If any person contravenes the provisions of Section 129 he shall be punishable with fine which may extend to five hundred rupees in the case of a first offence and two thousand rupees in the case of a second or subsequent offence.

124. Offences by companies.—(1) If the person committing an offence under this Act is a company, the company as well as every person in charge of, and responsible to, the company for the conduct to its business at the time of the commission of the offence shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or that the commission of the

offence is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purposes of this section,—

- (a) “company” means anybody corporate and includes a firm or other association of individuals; and
- (b) “director”, in relation to a firm, means a partner in the firm.

16.2.2 Dispute Settlement Mechanism Relating to Copyrights

The Act provides for civil remedies as well as penal liability for the infringement of the copyrights rights in chapters 12 and 13 respectively.

Civil Remedies

54. Definition. -For the purposes of this Chapter, unless the context otherwise requires, the expression "owner of copyright" shall include-

- (a) an exclusive licensee;
- (b) in the case of an anonymous or pseudonymous literary, dramatic, musical or artistic work, the publisher of the work, until the identity of the author or, in the case of an anonymous work of joint authorship, or a work of joint authorship published under names all of which are pseudonyms, the identity of any of the authors, is disclosed publicly by the author and the publisher or is otherwise established to the satisfaction of the Copyright Board by that author or his legal representatives.

55. Civil remedies for infringement of copyright. - (1) Where copyright in any work has been infringed, the owner of the copyright shall, except as otherwise provided by this Act, be entitled to all such remedies by way of injunction, damages, accounts and otherwise as are or may be conferred by law for the infringement of a right:

Provided that if the defendant proves that at the date of the infringement he was not aware and had no reasonable ground for believing that copyright subsisted in the work, the plaintiff shall not be entitled to any remedy other than an injunction in respect of the infringement and a decree for the whole or part of the profits made

by the defendant by the sale of the infringing copies as the court may in the circumstances deem reasonable.

(2) Where, in the case of a literary, dramatic, musical or artistic work, a name purporting to be that of the author or the publisher, as the case may be, appears on copies of the work as published, or, in the case of an artistic work, appeared on the work when it was made, the person whose name so appears or appeared shall, in any proceeding in respect of infringement of copyright in such work, be presumed, unless the contrary is proved, to be the author or the publisher of the work, as the case may be.

(3) The costs of all parties in any proceedings in respect of the infringement of copyright shall be in the discretion of the court.

56. Protection of separate rights. - Subject to the provisions of this Act, where the several rights comprising the copyright in any work are owned by different persons, the owner of any such right shall, to the extent of that right be entitled to the remedies provided by this Act and may individually enforce such right by means of any suit, action or other proceeding without making the owner of any other right a party to such suit, action or proceeding.

57. Author's special rights. (1) Independently of the author's copyright and even after the assignment either wholly or partially of the said copyright, the author of a work shall have the right-

(a) to claim authorship of the work; and

(b) to restrain or claim damages in respect of any distortion, mutilation, modification or other act in relation to the said work which is done before the expiration of the term of copyright if such distortion, mutilation, modification or other act would be prejudicial to his honour or reputation:

Provided that the author shall not have any right to restrain or claim damages in respect of any adaptation of a computer programme to which clause (aa) of sub-section (1) of section 52 applies.

Explanation.- Failure to display a work or to display it to the satisfaction of the author shall not be deemed to be an infringement of the rights conferred by this section.

(2) The right conferred upon an author of a work by sub-section (1), other than the right to claim authorship of the work, may be exercised by the legal representatives of the author.

58. Rights of owner against persons possessing or dealing with infringing copies. – All infringing copies of any work in which copyright subsists, and all plates used or intended to be used for the production of such infringing copies, shall be deemed to be the property of the owner of the copyright, who accordingly may take proceedings for the recovery of possession thereof or in respect of the conversion thereof :

Provided that the owner of the copyright shall not be entitled to any remedy in respect of the conversion of any infringing copies, if the opponent proves-

- (a) that he was not aware and had no reasonable ground to believe that copyright subsisted in the work of which such copies are alleged to be infringing copies; or
- (b) that he had reasonable grounds for believing that such copies or plates do not – involve infringement of the copyright in any work.

59. Restriction on remedies in the case of works of architecture. -(1)

Notwithstanding anything contained in the Specific Relief Act, 1963, where the construction of a building or other structure which infringes or which, if completed, would infringe the copyright in some other work has been commenced, the owner of the copyright shall not be entitled to obtain an injunction to restrain the construction of such building or structure or to order its demolition.

(2) Nothing in section 58 shall apply in respect of the construction of a building or other structure which infringes or which, if completed, would infringe the copyright in some other work.

60. Remedy in the case of groundless threat of legal proceedings. - Where any person claiming to be the owner of copyright in any work, by circulars, advertisements or otherwise, threatens any other person with any legal proceedings or liability in respect of an alleged infringement of the copyright, any person aggrieved thereby may, notwithstanding anything contained [in section 34 of the Specific Relief Act, 1963] institute a declaratory suit that the alleged infringement to which the threats related was not in fact an infringement of any legal rights of the person making such threats and may in any such suit-

- (a) obtain an injunction against the continuance of such threats; and
- (b) recover such damages, if any, as he has sustained by reason of such threats.

Provided that this section shall not apply if the person making such threats, with due diligence, commences and prosecutes an action for infringement of the copyright claimed by him.

61. Owners of copyright to be party to the proceeding. - (1) In every civil suit or other proceeding regarding infringement of copyright instituted by an exclusive licensee, the owner of the copyright shall, unless the court otherwise directs, be made a defendant and where such owner is made a defendant, he shall have the right to dispute the claim of the exclusive licensee.

(2) Where any civil suit or other proceeding regarding infringement of copyright instituted by an exclusive licensee is successful, no fresh suit or other proceeding in respect of the same cause of action shall lie at the instance of the owner of the copyright.

62. Jurisdiction of court over matters arising under this Chapter. - (1) Every suit or other civil proceeding arising under this Chapter in respect of the infringement of copyright in any work or the infringement of any other right conferred by this Act shall be instituted in the district court having jurisdiction.

(2) For the purpose of sub-section (1), and "district court having jurisdiction" shall, notwithstanding anything contained in the Code of Civil Procedure, 1908, or any other law for the time being in force, include a district court within the local limits of whose jurisdiction, at the time of the institution of the suit or other proceeding, the person instituting the suit or other proceeding or, where there are more than one such persons, any of them actually and voluntarily resides or carries on business or personally works for gain.

Offences

63. Offence of infringement of copyright or other rights conferred by this Act.

Any person who knowingly infringes or abets the infringement of-

(a) the copyright in a work, or

(b) any other right conferred by this Act, except the right conferred by section 53A shall be punishable with imprisonment for a term which shall not be less than six months but which may extend to three years and with fine which shall not be less than fifty thousand rupees but which may extend to two lakh rupees :

Provided that where the infringement has not been made for gain in the course of trade or business the court may, for adequate and special reasons to be mentioned in the judgment, impose a sentence of imprisonment for a term of less than six months or a fine of less than fifty thousand rupees.

Explanation.-Construction of a building or other structure which infringes or which, if completed, would infringe the copyright in some other work shall not be an offence under this section.

63A. Enhanced penalty on second and subsequent convictions. - Whoever having already been convicted of an offence under section 63 is again convicted of any such offence shall be punishable for the second and for every subsequent offence, with imprisonment for a term which shall not be less than one year but which may extend to three years and with fine which shall not be less than one lakh rupees but which may extend to two lakh rupees :

Provided that where the infringement has not been made for gain in the course of trade or business the court may, for adequate and special reasons to be mentioned in the judgment impose a sentence of imprisonment for a term of less than one year or a fine of less than one lakh rupees:

Provided further that for the purposes of this section, no cognizance shall be taken of any conviction made before the commencement of the Copyright (Amendment) Act, 1984.

63B. Knowing use of infringing copy of computer programme to be an offence. Any person who knowingly makes use on a computer of an infringing copy of a computer programme shall be punishable with imprisonment for a term which shall not be less than seven days but which may extend to three years and with fine which shall not be less than fifty thousand rupees but which may extend to two lakh rupees:

Provided that where the computer programme has not been used for gain or in the course of trade or business, the court may, for adequate and special reasons to be mentioned in the judgment, not impose any sentence of imprisonment and may impose a fine which may extend to fifty thousand rupees.

64. Power of police to seize infringing copies . -(1) Any police officer, not below the rank of a sub-inspector, may, if he is satisfied that an offence under section 63 in respect of the infringement of copyright in any work has been, is being, or is likely to be, committed, seize without warrant, all copies of the work, and all plates used for the purpose of making infringing copies of the work, wherever found, and all copies and plates so seized shall, as soon as practicable, be produced before a Magistrate.

(2) Any person having an interest in any copies of a work or plates seized under sub-section (1) may, within fifteen days of such seizure, make an application to the Magistrate for such copies or plates being restored to him and the Magistrate, after hearing the applicant and the complainant and making such further inquiry as may be necessary, shall make such order on the application as he may deem fit.

65. Possession of plates for purpose of making infringing copies. - Any person who knowingly makes, or has in his possession, any plate for the purpose of making infringing copies of any work in which copyright subsists shall be punishable with imprisonment which may extend to two years and shall also be liable to fine.

66. Disposal of infringing copies or plates for purpose of making infringing copies. - The court trying any offence under this Act may, whether the alleged offender is convicted or not, order that all copies of the work or all plates in the possession of the alleged offender, which appear to it to be infringing copies, or plates for the purpose of making infringing copies, be delivered up to the owner of the copyright.

67. Penalty for making false entries in register, etc., for producing or tendering false entries. - Any person who,-

(a) makes or causes to be made a false entry in the Register of Copyrights kept under this Act, or

(b) makes or causes to be made a writing falsely purporting to be a copy of any entry in such register, or

(c) produces or tenders or causes to be produced or tendered as evidence any such entry or writing, knowing the same to be false,

shall be punishable with imprisonment which may extend to one year, or with fine, or with both.

68. Penalty for making false statements for the purpose of deceiving or influencing any authority or officer. Any person who, -

(a) with a view to deceiving any authority or officer in the execution provisions of this Act, or

(b) with a view to procuring or influencing the doing or omission of anything relation to this Act or any matter there under,

makes a false statement or representation knowing the same to be false, shall be punishable with

imprisonment which may extend to one year, or with fine, or with both.

68A. Penalty for contravention of section 52A. -Any person who publishes a sound recording or a video film in contravention of the provisions of section 52A shall be punishable with imprisonment which may extend to three years and shall also be liable to fine.

69. Offences by companies. -(1) Where any offence under this Act has been committed by a company, every person who at the time the offence was committed was in charge of, and was responsible to the company for, the conduct of the business of the company, as well as the company shall be deemed to be guilty of such offence and shall be liable to be proceeded against and punished accordingly: Provided that nothing contained in this sub-section shall render any person liable to any punishment, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of, or is attributable to any negligence on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.- For the purposes of this section-

(a) "company" means anybody corporate and includes a firm or other association of persons; and

(b) "director" in relation to a firm means a partner in the firm.

70. Cognizance of offences. - No court inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class shall try any offence under this Act.

16.2.3 Dispute Settlement Mechanism Relating to Designs

Power and Duties of Controller

Powers of Controller in Proceedings under Act.

32. Subject to any rules in this behalf, the Controller in any proceedings before him under this Act shall have the powers of a civil court for the purpose of receiving evidence, administering oaths, enforcing the attendance of witnesses, compelling the discovery and production of under documents, issuing commissions for the examining of witnesses and awarding costs and such award shall be executable in any court having jurisdiction as if it were a decree of that court.

Exercise of the discretionary power by Controller

33. Where any discretionary power is by or under this Act given to Controller, he shall not exercise that power adversely to the applicant for registration of a design without (if so required within the prescribed time by the applicant) giving the applicant an opportunity of being heard.

Power of Controller to take directions of the Central Government.

34. The Controller may, in any case of doubt or difficulty arising in the administration of any of the provisions of this Act, apply to the Central Government for directions in the matter.

Refusal to register a design in certain cases.

35. (1) The Controller may refuse to register a design of which the use would, in his opinion, be contrary to public order or morality.

(2) An appeal shall lie to the High Court from an order of the Controller under this section.

Appeals to the High Court

36. (1) Where an appeal is declared by this Act to lie from the Controller to the High Court, the appeal shall be made within three months of the date of the order passed by the Controller.

(2) In calculating the said period of three months, the time (if any) occupied in granting a copy of the order appealed against shall be excluded.

(3) The High Court may, if it thinks fit, obtain the assistance of an expert in deciding such appeals, and the decision of the High Court shall be final.

(4) The High Court may make rules consistent with this Act as to the conduct and procedure of all proceedings under this Act before it.

16.2.4 Dispute Settlement Mechanism Relating to Geographical Indications

Appeals to the Appellate Board

31. (1) Any person aggrieved by an order or decision of the Registrar under this Act, or the rules made thereunder, may prefer an appeal to the Appellate Board within three months from the date on which the order or decision sought to be appealed against is communicated to such person preferring the appeal.

(2) No appeal shall be admitted if it is preferred after the expiry of the period specified under sub-section (1):

Provided that an appeal may be admitted after the expiry of the period specified therefor, if the appellant satisfies the Appellate Board that he had sufficient cause for not preferring the appeal within the specified period.

(3) An appeal to the Appellate Board shall be in the prescribed form and shall be verified in the prescribed manner and shall be accompanied by a copy of the order or decision appealed against and such fees as may be prescribed.

32. No court or other authority shall have or, be entitled to, exercise any jurisdiction, powers or authority in relation to the matters referred to in sub-section (1) of section 31.

Offences, Penalties and Procedure

37. (1) A person shall be deemed to apply a geographical indication to goods who-

(a) applies it to the goods themselves; or

(b) applies it to any package in or with which the goods are sold, or exposed for sale, or had in possession for sale or for any purpose of trade or manufacture; or

(c) places, encloses or annexes any goods which are sold, or exposed for sale, or had in possession for sale or for any purpose of trade or manufacture, in or with any package or other thing to which a geographical indication has been applied; or

(d) uses a geographical indication in any manner reasonably likely to lead to the belief that the goods in connection with which it is used are **designated** or described by that geographical indication; or

(e) in relation to the goods uses a geographical indication in **any sign, advertisement, invoice, catalogue, business letter, business paper, price list or other**

commercial documents and goods are delivered to a person in pursuance of a request or order made by reference to the geographical indication as so used.

(2) A geographical indication shall be deemed to be applied to goods whether it is woven in, impressed on, or otherwise worked into, or annexed or affixed to, the goods or to any package or other thing.

38. (1) A person shall be deemed to falsify a geographical indication who, either, _
(a) without the assent of the authorized user of the geographical indication makes that geographical indication or deceptively similar geographical indication; or
(b) falsifies any genuine geographical indication, whether by alteration, addition, effacement or otherwise.

(2) A person shall be deemed to falsely apply to goods a geographical indication who, without the assent of the authorized user of the geographical indication,-

(a) applies such geographical indication or a deceptively similar geographical indication to goods or any package containing goods;

(b) uses any package bearing a geographical indication which is identical with or deceptively similar to the geographical indication of such authorized user, for the purpose of packing, filling or wrapping therein any goods other than the genuine goods of the authorized user of the geographical indication.

(3) Any geographical indication falsified as mentioned in sub-section (1) or falsely applied as mentioned in sub-section (2), is in this Act referred to as a false geographical indication.

(4) In any prosecution for falsifying a geographical indication or falsely applying a geographical indication to goods, the burden of proving the assent of proprietor shall lie on the accused.

39. Any person who, -

(a) falsifies any geographical indication; or

(b) falsely applies to goods any geographical indication; or

(c) makes, disposes of, or has in his possession, any die, block, machine, plate or other instrument for the purpose of falsifying or of being used for falsifying, a geographical indication; or

(d) applies to any goods to which an indication of the country or place in which they were made or produced or the name and the address of the manufacturer or person for whom the goods are manufactured is required to be applied under section 71, a false indication of such country, place, name or address; or

(e) tampers with, alters or effaces an indication of origin which has been applied to any goods to which it is required to be applied under Section 72; or

(f) causes any of the things above-mentioned in this section to be done, shall, unless he proves that he acted, without intent to defraud, be punishable with imprisonment for a term which shall not be less than six months but which may extend to three years and with fine which shall not be less than fifty thousand rupees but which may extend to two lakhs rupees:

Provided that the court may, for adequate and special reasons to be mentioned in the judgment, impose a sentence of imprisonment for a term of less than six months or a fine of less than fifty thousand rupees.

50 (1) No court shall take cognizance of an offence under section 42 or section 43 or section 44 except on complaint in writing made by the Registrar or any officer authorized by him in writing:

Providing that in relation to clause (b) of subsection (1) of section 42, a court shall take a cognizance of an offence on the basis of a certificate issued by the Registrar to the effect that a registered geographical indication has been represented as registered in respect of any goods in respect of which it is not in fact registered.

(2) No court inferior to that of a Metropolitan Magistrate or Judicial Magistrate of the first class shall try an offence under this Act.

(3) The offences under Section 39 or section 40 or section 41 shall be cognizable.

(4) Any police officer not below the rank of deputy superintendent of police or equivalent, may, if he is satisfied that any of the offences referred to in sub-section(3) has been, is being, or is likely to be, committed, search and seize without warrant the goods, die, block, machine, plate, other instruments or things involved in committing the offence, wherever found, and all the articles so seized shall, as soon as practicable, be produced before the Judicial Magistrate of the first class or Metropolitan Magistrate, as the case may be:

Provided that the police officer, before making any search and seizure, shall obtain the opinion of the Registrar on the facts involved in the offence relating to geographical indication and shall abide by the opinion so obtained.

(5) Any person having an interest in any article seized under sub-section(4), may, within fifteen days of such seizure, make an application to the Judicial Magistrate of the first class or Metropolitan Magistrate, as the case may be, for such article

being restored to him and the Magistrate, after hearing the application and the prosecution, shall make such order on the application as he may deem fit.

51. In any prosecution under this Act, the court may order such costs to be paid by the accused to the complainant, or by the complainant to the accused, as the court deemed reasonable having regard to all the circumstances of the case and the conduct of the parties and the costs so awarded shall be recoverable as if they were a fine.

52. No prosecution for an offence Under this Act shall be commenced after the expiration of three years next after the commission of the offence charged or two years after the discovery thereof by the prosecutor, whichever expiration first happens.

53. An officer of the Government whose duty it is to take part in the enforcement of the provisions of this Chapter shall not be compelled in any court to say whence he got any information as to the commission of any offence against this Act.

54. If any person, being within India, abets the commission, without India, of any act which, if committed in India, would, under this Act, be an offence, he may be tried for such abetment in any place in India in which he may be found, and be punished there for with the punishment to which he would be liable if he had himself committed in that place the act which he abetted.

16.3 Summary

The Indian laws provides elaborated provisions regarding infringement, penalties thereof, powers of courts, powers of officers appointed, remedies to be provided and appellate authorities. These provisions are in conformity with obligations provided under the TRIPS agreement. In today's globalised scenario of expanding multilateral trade and commerce, it has become inevitable for any country to protect its intellectual property by providing statutory rights to the creators and inventors and thus help them fetch adequate commercial value for their efforts in the world market.

16.4 Self Assessment Test

1. Describe the Dispute Settlement Mechanism Relating to Patents.
2. Explain the Dispute Settlement Mechanism Relating to Copyrights.

3. Give a brief account of Dispute Settlement Mechanism Relating to Designs.
4. Briefly describe the Dispute Settlement Mechanism Relating to Geographical Indications

16.5 Further Readings

1. Bare Acts of Patents, Copyrights, Designs and Geographical Indications
2. Law Relating to Intellectual Property Rights by V.K. Ahuja
3. An Introduction to Intellectual Property Rights by B.L Wadhwa

Unit 17

IPR Transactions, Licensing, Financial Values of IPR and Payment Negotiations relating to IPR

Objectives:

After going through this unit, you should be able to understand the commercial aspect of the intellectual property rights i.e. transactions relating to intellectual property rights; the financial value of intellectual property rights and problems of valuation of intellectual property rights; licensing; and payment negotiations.

Structure:

17.1 Introduction

17.2 IPR Transactions

17.2.1 Means of Acquiring Intangible Assets

17.2.2 Tax Considerations

17.2.3 Antitrust

17.3 Licensing

17.3.1 Understanding license agreements

17.3.2 Skeleton of a License Agreement

17.3.3 Grant of Rights

17.4 Financial Values of IPR

17.4.1 Rationale

17.4.2 Factors driving the intellectual property

17.4.3 Approaches

17.5 Payment Negotiations relating to IPR

17.5.1 Negotiating IP clauses

17.5.2 Options for negotiation

17.6 Summary

17.7 Self-Assessment Test

17.8 Further Readings

17.1 Introduction

Intellectual property, very broadly, means the legal rights which result from intellectual activity in the industrial, scientific, literary and artistic fields. Countries have laws to protect intellectual property for two main reasons. One is to give statutory expression to the moral and economic rights of creators in their creations and the rights of the public in access to those creations. The second is to promote, as a deliberate act of Government policy, creativity and the dissemination and application of its results and to encourage fair trading which would contribute to economic and social development.

A crucial point about legal protection of intellectual property is that it turns intangible assets into exclusive property rights, albeit for a limited period of time. It enables your SME to claim ownership over its intangible assets and exploit them to their maximum potential. In short, IP protection makes intangible assets a bit more tangible by turning them into valuable exclusive assets that can often be traded in the market place. If the innovative ideas, creative designs and powerful brands of your SME are not legally protected by IP rights, then these may be freely and legally used by any other enterprise without limitation. However, when they are protected by IP rights, they acquire concrete value for your enterprise as they become property rights which cannot be commercialized or used without your authorization. Increasingly, investors, stock market brokers and financial advisors are becoming aware of this reality and have begun to value IP assets highly.

The enterprises worldwide are also more and more acknowledging the value of their IP assets, and, on occasions, have included them in their balance sheets. Many enterprises, including SMEs, have begun to undertake regular technology and IP audits. In a number of cases, enterprises have realized that their IP assets are in fact worth more than their physical assets. This is often the case for companies operating in knowledge intensive and highly innovative sectors, or companies with a well-known brand name. Thus IPR is commercialized and hence involves all commercial activities.

17.2 IPR Transactions

Understanding how intellectual property rights are involved with mergers and acquisitions is essential given how merger and acquisition (M&A) activity in

the intellectual property field has come to dominate, both in volume and in value, merger transactions generally. This situation was true in the 1990s, and it is still true now. The driving force behind a majority of mergers completed during the past decade has been the acquirer's desire to obtain the target's intellectual property assets.

An interesting feature of M&A activity is that it occurs both in boom and bust times. The boom side of the equation was amply demonstrated by the M&A activity during the mid to late 1990's which accounted for a significant percentage of the world's economy. Global M&A activity in the year 2000 was valued at nearly \$4 trillion, or a robust 40 percent of the estimated \$10 trillion American economy. While economic markets worldwide have slowed significantly in recent years, M&A transactions still occur in less economically vibrant times. Much of this activity takes place when a company, to obtain the economic benefits of consolidation in a particular industry, goes out and starts buying its competitors. In the health care industry, for instance, hospitals continue to merger to acquire the economic clout necessary to force insurers to increase their coverage payments to the hospitals.

Issues pertaining to M&A activity are not simply relegated to large, multinational corporations. Small and medium size businesses can add significant value and revenue by exploiting the full potential of their valuable intangible rights. In many instances, this means obtaining the necessary financing to acquire established properties and intellectual property rights in order to expand their business or to simply improve their performance and competitiveness. In the alternative, divesting certain intangible assets for a premium at the opportune time can yield significant financial returns for small or medium size businesses. Finally, intellectual property rights have enabled small or medium size businesses in relatively few years achieve large entity status with enormous capital values, such as Microsoft and Sun Microsystems.

The dominating presence of intellectual property in M&A coincides with the emergence of several new intellectual property-oriented M&A considerations. First, M&A activity was originally dominated by the United States. This circumstance, particularly during the 1990s changed with the sweeping globalization of intellectual property-oriented mergers. For example, in 1999 the U.S. merger volume rose to a record 1.7 trillion while Europe's merger volume

more than doubled from the prior year to 1.23 trillion. Indeed, the largest hostile takeover ever, and for intellectual property assets at that, did not occur in the United States but rather in Europe with British Vodafone's acquisition of Mannesmann of Germany for \$183 billion.

Second, because of the difference between tangible assets (such as inventory and factories) in contrast to intangible intellectual property assets, methods ordinarily used to value mergers involving tangible assets do not work well when applied to acquisitions of intellectual property. Despite the fact that M&A's involving intellectual properties have dominated the merger scene for several years, merger participants are still failing to apply appropriate M&A valuation procedures.

Third, it is unquestionable that Europe has established itself as a major player in the global M&A scene. EU competition law has, in turn, become a major determinant in whether mergers of significant magnitude will proceed. In a global economy, it is critical for most companies to be capable of conducting business internationally. Companies must become knowledgeable about other nations' competition laws or their equivalent.

In an increasing fashion, the value and importance of intangible assets are the driving force behind national and international mergers and are playing a greater role than ever before in terms of assets received through mergers, acquisitions and takeovers. Among these intangible assets are the traditional intellectual property assets such as patents, trademarks, copyrights, know-how and trade secrets. More recently included in this category and of ever-increasing importance are mask-works and Internet domain names. In the event of a merger or other type of corporate restructuring, the acquiring party should obtain equitable and record ownership of these intangible assets, or at the very least, acquire the appropriate license to use such intellectual property.

17.2.1 Means of Acquiring Intangible Assets

It is critical for executives, counsel, accountants and financial advisers to understand the transfer of intellectual property as an essential aspect of a larger transaction, not simply the transfer of intellectual property rights by itself. The transaction should be construed in the context of a sale of an entire business in which those intangible assets are used. Generally, businesses are sold either by the

purchase of the stock in a corporation or through a purchase of assets used by the business to be sold. Under either scenario, two basic sets of documents, an "acquisition agreement" and "transfer documents" will be prepared and negotiated.

Acquisition Agreement

An Acquisition Agreement is prepared for the express purpose of detailing those terms and conditions under which either the stock purchase or sale of assets will be sold. The purpose of the Acquisition Agreement is to identify the issues essential to the specific transaction; such as the stock or assets, the purchase price, method of payment, date of closing and any conditions precedent which the seller or buyer is expected to meet prior to the "closing" date. Additionally, in the specific context of intellectual property, the seller will usually be asked to make certain representations and warranties in connection with the intangible assets to be sold. The need to list the assets and liabilities is greater in terms of an asset purchase as opposed to a share purchase, since purchasers of assets will typically acquire those assets set forth in the transfer agreement. On the other hand, share purchases will transfer the entire rights in the intellectual property by operation of law. However, regardless of the nature of the transaction, asset schedules in the context of intellectual property play a key role in determining the representations and warranties to be included in the agreement. American agreements tend to focus more specifically upon identification and scheduling of intellectual property and other assets while European agreements tend to emphasize the representations and warranties concerning the validity of the intellectual property. In transactions where certain intellectual property is being used both in the business being sold and in the business that the seller is retaining, it will be necessary for the parties to determine who will maintain "record" title to the specific types of intangible assets. For example, the seller may not be willing to relinquish title to its "house" trademark, but willing to include those marks covering certain product lines as part of the overall transaction. In this context, licensing of the specific mark, either by sale and license back to the seller or by imposing an obligation upon the seller to guarantee the grant of a license to seller post-closing.

The Representations and Warranties to be incorporated into a typical purchase agreement tend to be one of the more heavily negotiated aspects of any purchase agreement. Typically included by a seller in its representations and warranties are statements to the effect that the schedule of intangible assets is

complete and accurate, it is the rightful owner of such intangible assets, no liens or encumbrances exist with respect to such intangible assets, the intellectual property does not infringe the intellectual property rights of a third party, the buyer is indemnified, seller will assist buyer in performing due diligence in connection with the intellectual property being transferred and other disclosures such as existing licenses, settlement agreements, consent agreements, ongoing litigation, opposition, interference or other actions which may affect the use of the scheduled intellectual property.

Transfer Documents

Transfer documents are generally executed separate and apart from the acquisition agreement discussed above for the purposes of effecting the sale. If the acquisition is structured as a stock purchase, documents transferring the assets generally are not necessary, instead, documents which transfer the stock will allow the buyer to indirectly become the owner of the assets. In the context of intellectual property assets, very often they will be separately transferred to a holding company and either licensed back to the operating company or become the subject of a subsequent sale to the ultimate purchaser. If the transaction is structured as an asset purchase, the intellectual property assets will be either specifically mentioned in the acquisition agreement or become the subject of a separate bill of sale. However, very often intellectual property assets are the subject of a separate agreement in light of the fact that they require recordal of the new owner in the respective jurisdictions in which they are validly owned and used. Furthermore, the forms and requirements for valid transfers differ from country to country and become a matter of public record. The parties to the transaction should anticipate these contingencies and a separate or perhaps several agreements with respect to intellectual property assets should be contemplated.

Sale of Assets

If a party acquires trademark rights by acquiring a business vis-à-vis a sale of assets, it is not unusual for the transfer agreement to forego specifically mentioning trademark or other intellectual property rights. If a business is sold as a going concern, the intent to transfer trademarks and the goodwill associated therewith is presumed, even though not expressly provided for. An exception to this concept lies in the context of transactions between parent corporations and their wholly-owned subsidiaries. Asset-based purchases in this context will not

automatically include intellectual property rights, rather, ownership of the intangible assets will remain with the parent corporation unless the underlying agreement expressly provides for transfer to the subsidiary.

Stock Purchase

In the context of a stock purchase acquisition, ownership of trademarks and other intellectual property still remains with the acquired company. Purchase of shares will not affect distinct property rights in intangible assets or other intellectual property to be properly transferred, although a separate agreement is usually necessary to underscore the parties' intentions.

17.2.2 Tax Considerations

Depending upon the scope of the business activities of the purchaser, it may choose not to simply obtain record title to intellectual property assets received in a merger or acquisition, rather, it may choose to sell its newly acquired intangible assets to a third party (which it may or may not own a substantial portion of the shares) and receive a license to use same. Very often, this can be achieved in the most tax efficient manner by placing ownership of the intangible assets in a holding company which then licenses back the assets for use by the operating company.

For example, in the United States the establishment of a Delaware Investment Holding Company (a "DIHC") provides an excellent framework for this model. Typically, title to the intangible assets will be transferred to the DIHC who subsequently licenses the use of the intangible assets to whichever operating entity the purchaser (normally the party who has dominant ownership and created the DIHC) desires the assets to be used by in exchange for a royalty. Not only is the DIHC exempt from Delaware's income and gross receipts tax, but the royalties received by the DIHC are exempt from Delaware taxes as long as the activities of the DIHC are confined to maintenance and management of intangible assets. Further tax benefits exist in that the licensee may be entitled to a deduction for payment of the royalties, depending upon the state or local jurisdiction.

Transactions wherein one company has a presence outside the United States can generate more complex tax implications. Pre-transaction considerations should include whether any tax treaties exist among the respective nations, U.S. federal and state tax requirements and taxation in the foreign jurisdiction.

17.2.3 Antitrust

Parties to a merger or acquisition would be ill-advised to ignore the antitrust concerns in the context of obtaining intellectual property assets. In both the United States and Europe, the Justice Department and European Commission have been taking an ever increasing interest in the acquisition of intellectual property rights from an antitrust perspective. Very often, the intellectual property rights aspects of a commercial merger or acquisition are the prominent focus of the pre-merger examination of the proposed combination. In the United States, the Hart-Scott-Rodino Act imposes a pre-merger notification requirement upon parties to a commercial merger or acquisition if the two parties are of sufficient size i.e., \$100 million and \$10 million in sales or assets and the transaction in question involves at least 15% of the sellers assets or has a value greater than \$15 million. The necessary documentation must be submitted to the Federal Trade Commission and the Assistant Attorney General of the Antitrust Division of the Justice Department and the waiting period is thirty days from receipt thereof, not including extensions and requests for further information and documentation. Failure to comply with these notification requirements can result in a civil penalty of not more than \$10,000.00 for each day in which there is non-compliance. As such, great care should be taken with respect to valuation of the intellectual property rights to determine if compliance with the notification provisions of the Hart-Scott-Rodino Act is required.

17.3 Licensing

17.3.1 Understanding license agreements

A licence agreement is a contract under which the holder of intellectual property (licensor) grants permission for the use of its intellectual property to another person (licensee), within the limits set by the provisions of the contract. Without such an agreement, the use of the intellectual property would be an infringement. Examples of licence agreements are the software licences concluded every time you buy software or a trade mark licence permitting a manufacturer to print the logo of a company on merchandise.

Typically, there are two main types of licence agreements:

(i) intellectual property rights licence: only an intellectual property right is licensed (e.g. a licence to use a patent or a trade mark licence);

(ii) technology or product licence: all the intellectual rights protecting a given technology or product are licensed (e.g. license to use and market a diagnostic kit).

A licensing agreement is a partnership between an intellectual property rights owner (licensor) and another who is authorized to use such rights (licensee) in exchange for an agreed payment (fee or royalty). A variety of such licensing agreements are available, which may be broadly categorized as follows:

- Technology License Agreement
- Trademark Licensing and Franchising Agreement
- Copyright License Agreement

In practice, all or some of these agreements often form part of one single contract since in transfers of this nature many rights are involved and not simply one type of intellectual property right. You may also come across licensing agreements in other circumstances, such as, during a merger or acquisition, or in the course of negotiating a joint venture.

All of these mechanisms either on their own or in combination will provide a SME, as a licensor or licensee, a wide variety of possibilities in conducting business in your own country or elsewhere. As an intellectual property owner and a licensor, a SME can expand its business to the frontiers of its partners' business and ensure a steady stream of additional income. As a licensee, a SME can manufacture, sell, import, export, distribute and market various goods or services which it may be prevented from doing otherwise.

In the international context, a formal licensing agreement is possible only if the intellectual property right you wish to license is also protected in the other country or countries of interest to you. If your intellectual property is not protected in such other country or countries then you would not only be able to license it, but also you would have no legal right to put any restriction on its use by anyone else.

17.3.2 Skeleton of a License Agreement

Every License Agreement should contain a framework - a skeleton - which provides support for other clauses or systems of clauses in the License Agreement. Sometimes these skeletal elements are scattered throughout the Agreement and, due to awkward drafting, can be difficult to find.

The skeleton of a License Agreement is:

- Identification of the Parties
- Recitals
- Definitions
- License Grant
- Compensation
- Obligations of the Parties
- Term and Termination
- Conflict Resolution
- Other Common Clauses

Each of the above is discussed more fully below.

Identification of the Parties

Although self-evident, the Agreement should be made between the party who has the right to grant the license and the party who will be exercising that license. Additional details, including the addresses for each of the parties, the jurisdiction of incorporation (for corporate entities) and the effective date of the Agreement, may also be included in the identification section of the Agreement.

It is important to ensure that the full legal names of the parties are used to identify the parties. Only the parties that actually sign the Agreement will be legally bound to its provisions; if there is some concern about a “shell” corporation being the only one responsible to fulfil obligations or provide indemnities, it may be worth considering adding the parent company to the Agreement as a guarantor.

It is also helpful to consider using shorthand terms such as “Licensor” and “Licensee” to simplify the drafting the Agreement. But be careful – if there are more than two parties, the use of “Licensor” and “Licensee” may become confusing, especially if cross licenses are involved. It may be preferable to use shorthand terms that are more unique, to avoid confusion when drafting and reviewing the Agreement: for example, “ABC Company (Canada) Incorporated” could be shortened to “ABC Canada”.

Recitals

The recitals tell the “story” of the parties and their relationship up to the time of the Agreement. For example, if the parties are entering into a license agreement as part of a settlement to an infringement action, the recitals can lay out

the sequence of events leading up to the settlement. If the intellectual property rights that are the subject of the license were assigned or transferred, and the license is intended only to assist the seller in transitioning its business, this can also be set out in the recitals.

Properly drafted recitals can be very useful tools in explaining the context and background of the license to a reader, and can assist in the interpretation of the Agreement. It is important, however, to ensure that there is nothing in the recitals that is inconsistent with the main provisions of the Agreement. The final clause of the recitals typically makes it clear that the binding obligations of the parties are set forth in the main body of the agreement, and not in the recitals.

Definitions

The definition clause is the dictionary for the Agreement. The parties to the Agreement can define terms like "licensed patents", "use" and "royalty" to make clear the rights and obligations of the Agreement. The definitions can be used to simplify drafting; for example, if a series or family of patents is being licensed, the full list can be scheduled and then captured by the defined term "licensed patents".

Definitions can also be used to limit the scope of the license; a definition of "field" may clearly set out the limits on the licensee's rights. Similarly, the definition of "revenue" or "net revenue" may impact the amounts of royalties to be paid to the licensor. It is important to note that if a word or terms are defined in the Agreement, the defined meaning will take precedence over any other common meaning for the word or terms.

License Grant

The license grant provision is one of the most critical elements of the Agreement. It sets out the scope and extent of the rights granted to the licensee, as well as any limitations on those rights.

Compensation

The provisions dealing with compensation set forth the consideration that the licensee is expected to pay to the licensor in exchange for the license rights granted to it. The compensation provisions of the Agreement may deal with the amount of compensation owing to the licensor, the timing and frequency of

... include details on any reports that the
licensee must provide to the Licensor with payments.
... liability for taxes and
... for with payments.

Obligation The type and complexity of the Agreement, each of the
may have specific obligations that must be fulfilled during
the Agreement and even beyond the expiry or termination of the
these obligations may range from positive obligations such as a duty
of non-competition, to negative obligations such as a duty not to compete with
the Licensor. It is imperative that the obligations of the parties be clear and
unambiguous; if they are too vague, it may make it difficult for a party to terminate
the Agreement without liability for a failure of one party to fulfil its obligations.

Term and Termination

As with any type of commercial agreement, a license agreement should have both a defined term and provisions outlining when a party may terminate the agreement, and for what reason. It is also recommended to deal with the effect of termination in advance, so that each party can plan an exit strategy with full knowledge of the consequences of any termination of the Agreement.

Conflict Resolution

Intellectual property disputes can be extremely costly, even if they arise in the context of a license arrangement. Most license agreements include provisions that attempt to regulate the manner in which disputes between the parties may be resolved, in an effort to ensure that costs are contained.

Other Common Clauses

The remainder of the skeleton of the Agreement will include other clauses that are common in a license agreement. These may include representations and warranties, provisions that govern the treatment of confidential information, and standard legal "boilerplate".

17.3.3 Grant of Rights

The grant clause is the most important clause in any intellectual property license agreement. It specifies "who gets what". For example, a grant clause could be as simple as "the Licensor hereby grants to the Licensee a license to Use the

Software in the Territory for the Term of this Agreement. Recourse may be necessary to the definitions clause in order to find the meaning of the capitalized terms.

Alternatively, the grant clause could be far more comprehensive. It could grant the licensee with the right to be the only person entitled to use, sell, lease, license, or market a product using a trade-mark.

The object of the grant clause is to grant permission to the licensee to use certain intellectual property rights of the licensor. Care must be taken by the licensor that the grant clause does not grant "all right, title and interest in and to the intellectual property" to the licensee. Such a clause would constitute an "assignment" of the intellectual property rights making the purported licensee the new owner of these rights, even to the exclusion of the purported licensor.

Degrees of Exclusivity

The licensor can grant to the licensee a license of varying scope. A license may be exclusive, sole or non-exclusive.

- (i) **Exclusive License:** The broadest scope of license that can be granted is an "exclusive" license. From its root in the word "exclude", an exclusive license excludes the use of the intellectual property right licensed to everyone but the licensee. After granting an exclusive license, the licensor is excluded from continuing to use the intellectual property. The grant of an exclusive license is as close as one can come to assigning the intellectual property right. The licensor retains ownership but licenses away everything else.
- (ii) **Sole License:** A "sole" license, once granted, prevents the licensor from licensing the intellectual property to anyone else. The licensor retains the right to use the intellectual property.
- (iii) **Non-Exclusive License:** A "non-exclusive" license can be granted as often by the licensor to as many licensees as desired. Most commercial software licensed today is licensed on a non-exclusive basis.

Sublicenses

In addition to the types of license discussed above, a grant may include the right of the licensee to "sublicense" the intellectual property rights granted to it. The sublicense may encompass all or only a portion of the rights granted to the licensee. For example, a licensee may be granted the right to use, copy and modify

source code, and to sell the resulting software product in object code. It may in turn be granted the right to sublicense the right to sell the software product (through distribution channels or sales agents), but not the right to sublicense its right to modify to the source code.

A licensor will want to be particularly cautious about sublicenses of any trade secrets (in the above example, the source code could be considered a trade secret), as direct control of the intellectual property right is one party "removed" in a sublicense arrangement. If a sublicense right is granted, it is common for the Agreement to include a provision allowing the licensor to approve the terms and conditions of any sublicense, or at the very least to require that the sublicense be on terms and conditions that are substantially the same as those set forth in the Agreement. This is particularly critical when trade-marks are sublicensed, as it is necessary for the trade-mark owner to ensure that the use of any licensed marks are monitored and quality standards are imposed on any products or services bearing the licensed marks.

Sublicenses may either pay royalties or other license fees directly to the licensor, or to the licensee who would then share the royalties or other license fees with the licensor on an agreed-to basis.

A grant is usually personal to the licensee. Therefore, any rights granted may only be exercised by the named licensee in the Agreement. Sometimes a licensee knows ahead of time that its subsidiaries or affiliates will need to be able to exercise license rights on behalf of the licensee or for their own account – for example, it may be more cost-effective for a licensee's foreign affiliate to manufacture licensed products which would then be sold by the licensee. As another example, tax or other legal considerations in certain jurisdictions may necessitate the establishment of a local entity for distribution. If these are concerns, the licensee should ensure that it either has a right to sublicense, or that the grant is expanded to include subsidiaries and affiliates of the licensee.

Scope of Grant

The scope of the actual grant will depend on the type of intellectual property licensed. It may also depend on the commercial deal struck by the parties. The scope of the grant may well be less than the full range of rights afforded to the

owner of the intellectual property. Some examples of the types of limitations on the scope of the grant include:

(i) Nature of the intellectual property: The nature of the intellectual property will dictate the scope of the rights granted under the Agreement. A licensor can only part with those rights that it itself holds – therefore the license of a patent is typically limited to any or all of the right to make, use and sell the patented invention. A license grant under a copyright could include any of the many subsidiary and derivative rights accorded to the copyright owner.

(ii) All or part of the rights: A patent licensee may be granted the right to use the patented technology, or to manufacture and sell a product embodying or incorporating the technology, or any other combination of rights. If the commercial relationship is one of franchisor-franchisee, the license grant will likely focus on trademarks, and will ordinarily be limited to a right to “use” in association with specified products. If software is being developed and licensed, then the license grant may include the right simply to use, or perhaps a right to use and modify if the licensee intends to customize the software. The variations are limitless, and each grant must be carefully crafted so that it is tailored to the business arrangement contemplated by the parties. It is important that the licensor does not part with more rights than it needs to, but equally important that the licensee is empowered with the rights it requires to fulfil its business objective.

(iii) Field: Field of use restrictions in the grant are another way in which intellectual property rights may be “parcelled” by the owner. A “field of use” limitation may limit the grant of a technology with general or broad application to a narrow and defined product, use or purpose. If a party owns a patent on a drug product that has been approved for several therapeutic indications, a licensee may be entitled to use, manufacture and sell the product, but only for the treatment of one approved indication, or for the sole purpose of research in a specific area. Field of use restrictions may also operate to limit a license to the production of a specific style or size of product, or to the use of a mark in association with services provided to a specific market segment. Field of use limitations are particularly common in software licenses, where use of the software (and by extension, the intellectual property rights associated with the software) may be limited to a particular machine or work station, or limited to use in association with a particular product.

(iv) Territory: Territorial limitations are extremely common, particularly in the area of trade-mark licenses where different distribution partners may be granted exclusivity for their regions. The territory may be as broad as "world-wide", limited to a particular province or region, or even as restricted as a plant location.

(v) Release: If a license is being entered into as part of a settlement to infringement proceedings, it may be necessary to include in the grant section a release against infringement that was alleged to occur prior to the date of the Agreement. Although most properly drafted grant provisions will make it clear that the rights granted to the licensee are conditional upon the licensee's compliance with its obligations under the Agreement, this is particularly important in a release-type grant if the licensor intends to retain the right to recover damages for the past infringements upon any future breach by the licensee of the Agreement. This would likely only apply where specific consideration for the release has not been provided.

Implied Rights and other Restrictions

Certain types of intellectual property license grants necessarily involve the grant of implied rights. For example, a computer program is "used" when it executes to provide the desired result. The computer program is typically stored in permanent memory and copied to the Random Access Memory of the computer while individual steps of the program "execute". Arguably, this is a copying of the program from the hard drive to the RAM. Thus a license to "use" a computer program implies that a license has been granted to copy the computer program to the extent necessary to allow the computer program to execute. This does not mean that the computer program can be copied so as to be modified by the licensee. Such a permission would have to be either expressly granted or be implied from other terms in the license. Some drafters include clauses to specify what the grant did not include, couched as "other restrictions". This can be drafting overkill, since whatever is outside the grant clause is not granted. However, including a list of what the licensee cannot do may serve a useful purpose of reminding the licensee of what cannot be done.

17.4 Financial Values of IPR

Valuation is considered as one of the most critical areas in finance; it plays a key role in many areas of finance such as buy/sell, solvency, merger and acquisition. Furthermore, intellectual property (IP) valuation is considered as one of the most important management strategic issues.

The value of IP as an asset is dependent on its situation, and the same asset can be worth different amounts based on its use. For example, the most evident situation when to perform a patent valuation would be before bidding on or selling an IP asset. Still there are other situations like when you would like to transfer an asset to another country, where it may be applicable to laws of transfer pricing and you will have an obligation towards the local tax authorities to perform an IP valuation. Yet another example could be when performing a company valuation, in case of releasing new shares when raising capital, or by negotiating loans with the bank. There are different ways to estimate a fair market value of IP when applying recognized accounting principles, and some ways will also require particular skills, which makes the value difficult to predict.

17.4.1 Rationale

There are numerous individual reasons or motivations for conducting an intellectual property valuation or economic appraisal analysis. It is prepared, for example, for transactions, pricing and strategic purposes, financing securitization and collateralization, tax planning and compliance, and litigations support.

17.4.2 Factors driving the intellectual property

Intellectual property derives its value from a wide range of significant parameters such as market share, barriers to entry, legal protection, IP's profitability, industrial and economic factors, growth projections, remaining economic life, and new technologies.

17.4.3 Approaches

The valuation process necessitates gathering much more information as well as in depth understanding of economy, industry, and specific business that directly affect the value of the intellectual property. Therefore, such information may be gathered from external and / or internal sources. Finally, the information is devoted to be turned into financial models to estimate the fundamental value of a particular

type of intellectual property based on such adapted International Valuation Standards.

- Uniform Standards of Professional Appraisal Practice (USPAP)
- International Valuation Standards Committee (IVSC) (50 Countries)
- US Generally Accepted Accounting Principles (GAAP)
- International Financial Reporting Standards (IFRS)
- Financial Accounting Standards Board (FASB)

The valuation analysts use numerous approaches in order to reach a reasonable indication of a defined value for the subject intangible assets on a certain date which is referred to as the valuation date. The most common approaches to estimate the fundamental or fair value of the intellectual property are defined as the following:

1. Cost approach: The cost approach is based on the economic principle of substitution. This principle states that an investor will pay no more for an asset than the cost to obtain, by purchasing or constructing, a substitute asset of equal utility. There are several cost approach valuation methods, the most common being the historical cost, replacement cost, and replication cost.
2. Market approach: The market approach is based on the economic principle of competition and equilibrium. These principles conclude that, in a free and unrestricted market, supply and demand factors will drive the price of an asset at equilibrium point. Furthermore, it provides an indication of the value by comparing the price at which similar property has exchanged between willing buyers and sellers. Data on such similar transactions may be accessed in several public sources, including specialized royalty rate databases.
3. Income approach: This approach estimates the fair value of intellectual property by discounting the future economic benefits of ownership at an appropriate discount rate.
4. Direct approach: The direct approach is based on the current value of shares of intellectual property in an Intellectual Property (IP) Share Market.
5. Using the payoff method on top of the four above mentioned methods is a way to enhance the valuation and analysis of intellectual property.

17.5 Payment Negotiations relating to IPR

17.5.1 Negotiating IP clauses

First, what do we mean by intellectual property (IP)? As a broad category of tangible and intangible rights, there are four main types of IP that can apply (see below), which are the most commonly encountered in procurement contracts.

When negotiating IP, remember that the service provider or supplier will usually seek to retain:

- The right to re-use the knowledge it gains on the engagement (subject to customer confidentiality).
- The right to build similar deliverables for itself and others, subject to any non-compete provisions that it has agreed with the customer. Under a non-compete provision, the service provider should commit to not developing similar software for any competitors.
- Getting the right definitions is very important in negotiating IP clauses. A term commonly used is 'deliverable', which is effectively the product or service that you receive. However, you need to ensure you correctly distinguish and identify the two component parts of a deliverable, which are:
 - ❖ Custom components – the elements newly created on the engagement.
 - ❖ Service provider background IP – this includes the IP and know-how that the service provider takes into or develops outside of an engagement and any modifications or derivatives of that IP and know-how. In all cases you should, as part of the deliverables, seek to get a licence to use service provider background IP for your internal purposes.

17.5.2 Options for negotiation

While IP can be a complex area and specialist advice should always be considered, an understanding of the different options will at least ensure that you are entering into the negotiations with your eyes open.

Approach 1: The service provider owns all newly created IP and then licenses it to you for your internal use.

This is usually the service provider's 'going in' position. The supplier is effectively saying that it owns the deliverables and all IP in them, and will license such IP back to you for your internal use. This approach may be acceptable if you

do not consider that the deliverable provides any competitive advantage and you are not overly concerned with ownership.

Approach 2: Joint ownership.

If you are unwilling to agree to the service provider's 'going in' position, the next option the service provider is likely to propose is joint ownership of the custom components and all IP rights in them. This is often tied to some restrictions on use, sale and sub-licensing.

Joint ownership is often suggested as a compromise between an outright assignment and a simple licence. However, many legal advisers are wary about joint ownership because on the outside it appears to represent an ideal solution, but it does introduce significant complexities. Joint ownership can mean various things in various circumstances. It is important to clarify precisely what is meant and, specifically, what rights each of the parties has to exploit the jointly owned deliverables, either independently or whether exploitation can only take place with unanimous agreement. Equally, if either of the joint owners develops certain improvements to the deliverables it should be clear which rights each of the joint owners has in relation to the improvements.

Another drawback of this approach is that, while it generally gives each party the rights of ownership in the custom components, there may be difficulties in the event that one party wishes to pursue an infringement action against a third party (or defend an invalidity action by a third party), and the other party does not. The reason for this is that for any such action to be taken it has to be taken by all co-owners.

You should also clarify what rights each of the joint owners has to sell or transfer its share in the ownership. Certain forms of joint ownership are akin to outright ownership and can be passed on freely to a purchaser or assignee. On the other hand, other forms of joint ownership offer significantly less freedom and effectively mean that the rights of the respective owners are linked together until they agree otherwise.

Approach 3: The service provider grants copyright ownership to the customer, but retains ownership of patent rights and then licenses you to use patent rights for your internal business.

The benefit of this approach is that the service provider retains patent rights (the rights that protect the ideas), but gives up copyright (the specific

implementation of that idea for you). The effect of this is that the service provider can reuse the idea for its other customers, but cannot copy or 'cut and paste' from the specific custom components developed under the engagement.

Approach 4: You own all newly created IP, grant the service provider broad use and sublicense rights, possibly subject to reasonable restrictions, to protect your competitive advantage.

You are granted ownership of all rights, title and interest in the custom components and all IP in them, but grant the service provider a broad licence back. The benefits of this approach are that you get the ownership that you want, while the service provider has more or less the same use rights as if it had retained ownership.

Approach 5: A 'menu' approach.

The menu approach is when the IP clause pulls together and lists all potential options for IP ownership and says the option that is to apply will be set out in the relevant appendix.

Approach 6: You own all newly created IP and the service provider retains no rights.

Here, the service provider is required to give up all rights, title and interest in the custom components. This will probably only be acceptable to a provider when other options have failed and it is keen to win the work. In negotiating to avoid this position, the service provider is likely to stress that it discourages innovation and best thinking as the supplier is unlikely to do work for the customer that cuts it out of a future market. If this approach has been adopted, you should be satisfied with what you have been able to negotiate.

17.6 Summary

Institutions are involved in knowledge creation, development and exchange and are working to ensure that new ideas, technologies and innovations flow from their institution into the market place. A successful outcome when commercializing research may be the licensing of intellectual property to a new or existing business. The reality is that many institutions will have processes in place that manage innovation all the way from disclosure through to a commercial reality, along with

staff that provide assistance and support, from finding relevant funding through to the identification and engagement of potential licensees and collaborative partners.

Negotiating intellectual property (IP) transactions is not an easy task and can be extremely demanding. In order to avoid common missteps, there are some considerations that any person negotiating IP assets should bear in mind. First and foremost, as negotiations are deemed to start before sitting at the negotiating table, preparing oneself carefully beforehand proves to be fundamental for beneficial and successful discussions.

While the three standard approaches to measuring value can be considered in the valuation of IP (e.g., software can typically be valued through a replacement cost new technique), a valuation for leveraged finance purposes will focus on the income approach to value (typically a discounted cash flow analysis) and market approach to value through observed transactions. The appraiser can also incorporate tech-transfer and dispute resolution models that have been used in their respective settings for decades.

As the global economy races towards an information-based economy, the value of intellectual property will continue to play an increasing role as the driving force behind future merger and acquisition activity. Indeed, it is anticipated that intellectual property will be the dominant force in future commercial transactions comprising tomorrow's mergers and acquisitions.

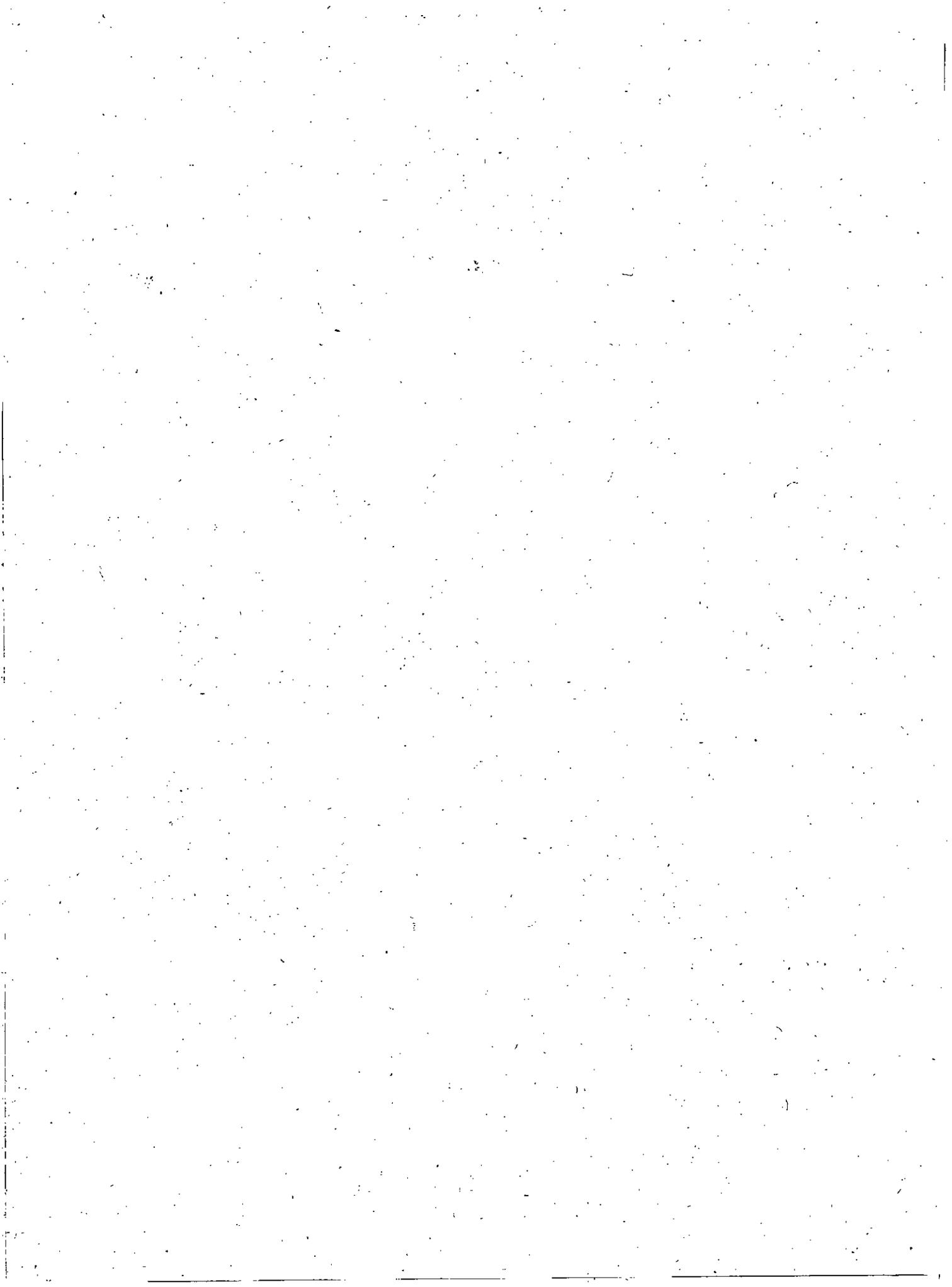
17.7 Self-Assessment Test

1. What are the means of acquiring the intellectual property rights?
2. Briefly discuss the tax considerations and antitrust relating to IPR transactions.
3. What do you mean by license? Give an outline of the license agreement.
4. What are the rights granted under the license of IPR? Discuss.
5. Discuss the payment negotiations relating to IPR.

17.8 Further Readings

1. WIPO Intellectual Property Handbook, (2004); WIPO Intellectual Property Law: Introductory notes; *WIPO Intellectual Property Handbook: Law, Policy & Use*. (2004).

2. Benko, Robert P. (1987), *Protecting Intellectual Property Rights: Issues and Controversies* (Washington, D.C.: American Enterprise Institute for Public Policy Research).
3. Smith, Gordon V. and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages*, John Wiles & Sons Inc., New Jersey, 2005.





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