

## Abiding IPRs in Technological Implications for Pakistan

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### ABSTRACT

The focal objective of this article is to analyze the role of intellectual property rights in technological implications within a general context. The performance of the IPRs system and its interaction with national innovation system with some degrees of success has also been highlighted. Major encounter over subsequently decade will be to identify policies and solutions that would permit marketplace economy to flourish in the framework of this intellectual property insurrection. There has been a lot of dispute on the role of intellectual property protection regime specially in fostering innovation, technology development of a country. IPRs are expected to emboli the innovation, by rewarding inventor with a grant of domination rights over the mercantile exploitation for a specified time period. This article tries to attempts to review the role of the IPR regime in technological development and also have suggested some policy implications for country like Pakistan and some reflecting lessons for other developing countries with similar settings and common characteristics.

**Keywords** - Intellectual Property Rights, Knowledge, Assets, Innovations, Benefits.

### I. INTRODUCTION

IPRs provide “*an important foundation for sophisticated business structures and indicate that private property rights in general are well enforced*”<sup>[1]</sup>. There may be an important signaling function of IPRs, particularly in countries that previously had policy regimes inimical to private investment and property rights<sup>[1], [2]</sup>. As developed countries have an extensive experience in generating intellectual property assets, and execution of IPRs, developing countries need to bridge that gap by increasing domestic awareness about intellectual property in the context of development, and actively and effectively promoting the use of intellectual property in national strategies and policies, in education, and in nation branding and national culture<sup>[4]</sup>. Developing country perspectives vary on the importance of IPRs as a component of economic policy. Public debate on IPRs in these countries is sometimes caught up in emotive issues such as implications for public health and access to medicine or the need to priorities among many competing demands for limited government resources. Critics point to significant implementation costs that can be associated with IPR commitments undertaken in the various international agreements. Most of the social scientist has challenged the legal and economic implications of strengthening of IPR, alleging that the system of international IPR rules is imposing a burden on developing countries. The accusation is that the

emerging standards raise the cost of intellectual content in products sought by developing countries, while developing countries may not have the capacity to capitalize on their own potential in a similar manner. The effective step towards the generation of more intellectual property assets is concerned with political leadership. In an increasing number of countries, whether developed or developing, IPR has become a fixed plank in the notes address of the Government’s key office holder. It is in those countries, with a high level of awareness that the integration of intellectual property appears to be successfully in progress<sup>[3],[5]</sup>. The Government should make it very clear exactly what its vision and strategy for the country is, including the goals and objectives, and the timeframe. Government policies and strategies will work with the maximum chance of accomplishment; if they are communicated to, and applied at, all levels of society, and integrated with IP (Intellectual Property) policies<sup>[4]</sup>. Efficient coordination between the various offices within the Government should be ensured as well as nationwide support from all possible constituencies, including industry, consumers, academia, and the public at large, in order to find the best balance among the different interests, and the most appropriate customization of policies and strategies for the specific needs and level of development of the country. “*Ensure that intellectual property policies are integrated into national development strategy*

and strike an appropriate balance between public policy objectives and the incentives and infrastructure which fuel innovation and creativity”<sup>[6]</sup>.

## II. PREAMBLES IN IPR EXPANSION

Indeed, stronger rights will provide competitive advantages for innovative firms, allowing them to appropriate larger returns from inventive activity and generating incentives for additional invention. Therefore, successful IPRs protection is about producing effective, commercially driven results<sup>[3], [5]</sup>. Like any other facet of business, IPRs protection needs to demonstrate a return on investment. The best indications of a return on investment are increased market share and sales attributable to IPR protection. IPR based policies could play a significant role in encouraging innovation, artifact development, and technical transformations<sup>[7]</sup>. This policy stance suggests that prospects for domestic invention and innovation are insufficiently expanded to warrant protection. However, inadequate IPRs could stifle technical transformations even at low levels of economic development. There are imperative practical implications of this psychotherapy. First, countries with weak IPRs could be isolated from current technologies and would be forced to build up technological knowledge from their own resources, a difficult and costly task. Second, those countries would obtain fewer spillover profit and demonstration possessions of new technologies in their economies<sup>[8]</sup>. Third, technologies accessible to such nations would tend to be outdated. Finally, countries with weak IPRs would knowledge both limited incentives for domestic innovation and relatively few internal technology transfers. The figure 1, determines the rate of transfer of technology in developed countries; it shows the joint collaboration of the local industry with the research and development done in academia<sup>[8]</sup>.

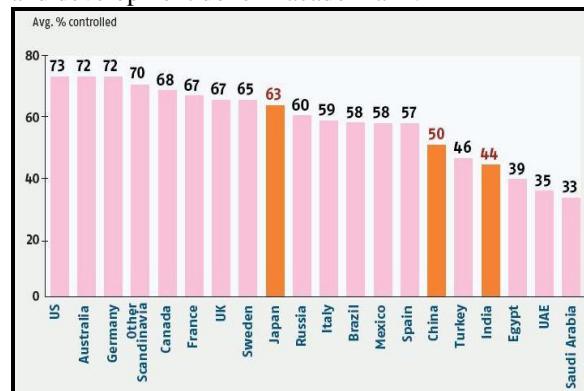


Figure 1. Rate of transfer of technology in developed countries from (2010-2011)

Furthermore, having surveyed the very recent literature of the impact of the stronger IPRs system on national technological capability of developing countries, one may generally refer to notion of National Innovation System (NIS) as critical reason supporting the idea. The figure 2, also illustrates the evolution of the patent rights index, 2002-2010, by OECD group and developing countries. The concept of NIS has been introduced in order to meet the present complexities in the process of knowledge creation and dissemination<sup>[4]</sup>. Since in 1990's the concept of NIS has been eared recognition as a core framework for analyzing technological deviations, which is considered to be indispensable grounds of long-term economic growth of a country<sup>[9]</sup>.

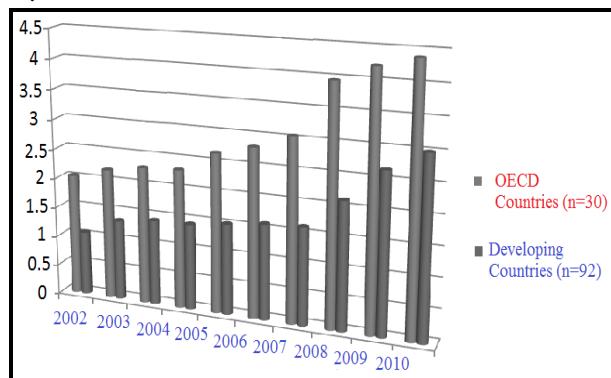


Figure 2. Evolution of patent rights index. The vertical bar indicates the advent of patenting and IPRs agreement

## III. IMPLICATIONS OF STRONG IPR'S IN URBANIZED COUNTRIES

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. An 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<sup>[9]</sup>. An 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<sup>[10]</sup>. Since the creation and diffusion of new knowledge are desirable for growth, it is necessary to trade off static optimization in favors of dynamic considerations. The optimum solution would be the key for the innovating countries to subsidies innovators until the costs of 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). Analysts admit that this does not yield a perfect solution to the market failure involved, but it is a compromise that has worked well in the past in the industrial countries that are the source of the overwhelming bulk of innovation<sup>[10]</sup>.

#### **IV. BENEFITS IN SUPPORT OF TECHNOLOGICAL DEVELOPMENT**

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 \$7,900 per capita in 2009 prices a fairly high level of income for the developing world. Theory also suggests that benefits of IPRs rise with income and that at low levels the costs of strengthening IPRs may outweigh the gains<sup>[11]</sup>.

- a) Superior worth for imported products and improved technologies under IPR safeguard.
- b) Loss of economic activity, by closure of imitative activities.
- c) Possible misapplication of protection by the patent holders and mainly giant foreign vendors.

#### **V. ENGROSSMENTS IN TECHNOLOGY EXPANSION**

The implications for the enforcement of IP's are not limited to only one sector of the economy and technology. It will have diverse implications for country like Pakistan's agriculture as well as industry level. Indeed, Pakistan is a future market of the world. Being a net importer of knowledge-based products, Pakistan may end up paying higher prices for these products before it is able to develop its own technological capacity and attract additional know how. Pakistan may not be able to benefit from the most advanced technologies due to costs involved<sup>[10], [11]</sup>. The protection of intellectual property rights at appropriate level can benefit both developed and developing countries. Developing countries, over the period of time can capitalize their unique bio assets. But that requires systems that will provide those

benefits from global development and marketing of their medicinal plant resources<sup>[2]</sup>. One of the problems that the implementation of patents that will pose challenges to Pakistan as a developing country would be the increase in the cost of drugs with consequences for public health. This has become a general problem for all developing countries, which lack the necessary research and development infrastructure, and if production of generic pharmaceuticals is stopped, access to extremely expensive life saving drugs will not be possible for patients in developing countries<sup>[9]</sup>. The need for foreign investment and transfer of technology cannot be underscored enough, in the context of modernizing of Pakistan's export sector. It will become easier if Pakistan succeeded in putting in place systems and procedures to protect the IPRs, which would be a step forward in terms of creating an investor-friendly environment in the country. The following table determines the level piracy in international IPRs on various industrial sectors of Pakistan, China, India, Iran and United Kingdom<sup>[11]</sup>.

**Table 1.** Level piracy in IPR on various industrial sectors Pakistan, China, India, Iran and UK. (Source) International Intellectual Property Rights Alliance's (IPRA's) Special Report.

Industrial Sector	China	Pakistan	Iran	India	UK
Motion Pictures	90%	60%	80%	99%	24%
Sound Recordings/ Musical Composition	85%	94%	38%	44%	14%
Business Software Applications	93%	92%	58%	63%	18%
Entertainment Software	99%	90%	78%	80%	20%
Books	92%	50%	90%	86%	11%
Watches	96%	10%	9%	15%	7%
Cosmetics	91%	15%	30%	40%	5%
Cloths	83%	17%	10%	22%	9%
Medicines	79%	45%	47%	70%	3%

As a signatory to the World Trade Organization (WTO), there is need to create awareness among the Pakistani business community within Pakistan and outside for the need to adhere to the requirements of a fast-integrating, global economy. It would include the active participation of

the intellectual property right owner; effective treaty compliance; consistent legislation and appropriate inter agency coordination between the police, prosecution authorities, custom agencies and the policy departments [6]. The implementation of the IPRs would bring benefits to the country in the long run, provided the country reaches a certain level of development.

## VI. GLOBAL IPR`S BAZAAR

Several countries have joined the global market and follow the international rules embodied in the treaties and regulations administered under the WTO. "Through the trade related aspects in IP and free trade agreements, including their respective IP provisions, those countries have ostensibly joined the global intellectual property bazaar" [3]. The percentage of products and services in the IP market is increasing. A recent study shows that the current value of IP in United States is reviled to be equivalent about 48 percent of the GDP. An increase in the share of IP in GDP appears to be the recent trend in the global market. No country can benefit from the IP system and its incentives and infrastructure until domestics' use their IP assets and enforce their IP rights in the global market on a regular and consistently increasing basis [2]. Internationalizing the nation's IP reserves requires the concerted efforts of the Government and IP owners, because only through those focused and coordinated efforts will the nation extend its scope and reach beyond its borders, above its national limitations.

## VII. CONCLUSION

Due to the importance of IPRs protection as one of the necessary infrastructures for supporting and promoting innovation in society, policy makers in different countries are trying to prepare the required backgrounds for promotion and development of IPRs assets at national level [1], [7]. Therefore, the country's key policy makers should adopt strategies for promoting IPR protection as well as effective management of IP assets. With this article we suggests few main strategies (i.e. developing national IPRs strategy; formulating necessary laws; providing infrastructures; launching educational & training programs; promoting maximum use of worldwide patent information etc) [9]. Considering these recommendations could be helpful to improve Pakistan's IPR system, the following mechanisms are;

### a) Status and recitals of IPR in national ICT sector

For more informed and intelligent IPRs policy making at national level, periodical studies should be done to determine the status and

contribution of IPRs systems in support of new technology development and commercialization.

### b) Formulating comprehensive strategy of IPR's protection system

We should formulate a comprehensive strategy for IPRs protection in the future development plans of the country. This comprehensive strategy should include the macro plans for escalating international cooperation in all IPRs aspects and plans for modifying national IPRs laws.

### c) Promoting special diplomacy IPR's assets

This is possible through providing professional consultative and consultancy bodies for supporting public and privet initiatives in the field of IPRs and technology commercialization.

### d) Improvement in arrangements of industrial property office

It is suggested that such kind of office should be established and should be separated from registration office for companies and this office should be nourished like other sections such as administrative and financial section, planning and education section etc.

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