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Intellectual Property Rights: Getting Priorities Right

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1 Introduction

What is an appropriate defence of intellectual property rights (IPRs) – and what aspects of the IPR family deserve an embrace of policy in order to promote commerce and economic growth? Few issues in trade, the European Union and international commercial policy have in the past decade provoked as much contention as intellectual property rights (IPRs). In Europe, the big debate over ACTA – or, the Anti-Counterfeiting Trade Agreement – ushered in a new dimension of controversy as the European Commission, and most member states (who favoured ACTA), were denied entry to this international agreement by the European Parliament. For many years, politicians and officials have wrestled with opposition to patents and copyrights. Recently, trademarks have also become subject of criticism, especially in areas like tobacco where countries believe they can reduce smoking by plain packaging regulations.

It is easy to understand the ascending role of intellectual property rights. It reflects the profound changes in the world economy over the past decades. Industrial countries have climbed the value-added chain by sourcing labour-intensive production from emerging countries and investing substantially more human and capital resources into research and innovation. A significant, yet increasing, share of output, value-added and trade builds on innovation. Innovative sectors take up a larger share of the world economy. The amount of resources spent on research and development (R&D) has multiplied over the past decades. Competition has grown tougher as many regulations that previously protected markets and incumbents have been swept away. Technological development has speeded up the pace of imitation in the economy and shortened the life cycle of a product. Friends and foes of IPRs agree on one thing, it is difficult to disregard how evolving economies and fundamental economic change have put greater emphasis on the exclusive economic rights granted by IPRs. Nor is it an area of dispute that the value of IPRs *to individual firms* generally is much greater today than in the past. [1]

For economists, IPRs are of interest because they may or may not facilitate commerce, productivity growth, and – ultimately – economic growth. In other words, they can facilitate or deter specialisation or innovation gains. Even if the "economist view" has grown in importance over a longer period of time, most policymakers tend to take a "legalistic view" on IPRs and/or just treat all different IPRs as one and the same. However, economic development has most probably made different parts of the IPR family more unlike each other, and the more the economy is defined by cross-border economic integration, the bigger these differences get – and the more important it becomes to get the policy priority of IPRs right. In other words, policymakers need to consider more carefully how priorities are made in IPR policy, both in domestic IPR policy and in external IPR policy, the way IPRs are addressed in international and trade agreements.

Negotiations over the Transatlantic Trade and Investment Partnership (TTIP) has ushered in some urgency in that discussion. Policymakers on both sides have clearly expressed a desire to use TTIP not just to address bilateral policy frictions but also to provide a platform for future trade negotiations with other countries. Some argue that TTIP can set standards for new trade agreements in future. While such rhetoric exaggerates the capacity of the EU and the US to determine the course of future trade policy with other key economies in the world, it is correct that trade agreements with the key developed economies today – the EU, Japan and the US – will have systemic effects on future trade and IPR policy. Consequently, Europe needs to acknowledge that it is now presented with a new opportunity to revisit key planks of its thinking about IPRs – at home and abroad – and formulate an agenda that fits its economic profile.

[1] Hall, Thoma & Torrisi (2007); Greenhalgh & Rogers (2007).

This paper stands in the nexus of trade policy and IPRs – and it aims to provide a different economic foundation for IPR policies by discussing how they are anchored in trade and economics. It is a "think piece" rather than a policy brief, and even if it comes with some policy recommendations, its core ambition is to revisit some key economic elements of IPRs and discuss them in a new light.

2 Trade Policy and IPRs

Europe's focus in the past has principally been concerned with multilateral trade negotiations. Consequently most of its interest for an external IPR policy has been channelled in that direction. The typical approach in its bilateral trade negotiations has been based on configuring IPR policy regimes with multilateral agreements – a so-called "generalist" approach. [2] This approach has contrasted somewhat with that of the United States. The US has been more inclined to use bilateral agreements to advance IPR policy regimes beyond multilateral agreements. Furthermore, it has also been more hands-on than the generalist approach of the EU. While Europe has taken a more "purist" view of IPR policy regimes, the US has been more positive in casting a wider net which not only covers explicit IPR laws but also their wider institutional infrastructure, especially regulatory concerns immediately linked to IPRs and their integrity.

There has been a change underway in Europe's approach for some time. With increasing concerns about especially IPR standards in emerging markets, like China and India, and opposition in the current Doha Round of trade negotiations to making the TRIPS agreement stronger and more effective, Europe is clearly more willing now to put greater emphasis on so-called TRIPS-plus issues and to accommodate other regulatory aspects in its bilateral trade policy. The question, however, is how such an approach should be designed to maximise economic gains? External IPR policy is no different from other areas; inevitably, policymakers will have to make priorities: some IPR concerns will take primacy over others. For instance, in the EU's recent trade agreement with Korea, it managed to get improvements in Korea in principally two areas of the broad family of IPRs: an extended product list of geographical indicators and copyright term extension. The problems with patent protection in Korea, not least in the medical field, were however not addressed. Other agreements have sometimes yielded different results, but they have still come in selected areas. This raises the question: on what basis is policy formulated? Or, to be more precise, what is the narrative that guides policy?

EU officials and representatives of governments with whom the EU has negotiated or is negotiating Free Trade Agreements (FTAs), or other bilateral agreements with clear trade and IPR components, give somewhat different accounts of how EU policy is made. Even if the views are not mutually opposing – at least not fundamentally – the nuances are put on different aspects of policy formulation.

One account of EU policy claims that there is no "model IP approach" and that there are no or very few initial priorities made by the EU. This is seen by several experts as the default position – partly for the reason that it is politically difficult to agree among 28 member states what concerns should be in the front seat or the back seat. There is also a cultural component: while US policy traditionally is seen as legalistic and aggressive, Europe typically takes a diplomatic posture with greater emphasis on procedural rules than hard agreements with strict guidance on how policy should be designed and what behaviour is prohibited.

[2] Pugatch (2007) and Woolcock (2007).

Another view is that a tacit understanding evolves in the absence of an explicit programme with clear priorities. This understanding is partly forced upon policy makers by exogenous factors, chiefly among them the power of lobbying from various outside interests. Some interests are more influential than others; some interests have messages that are more convenient, expedient and considered than others; and some interests have more powerful friends inside the decision-making machinery than others. This is not surprising; it is the *modus operandi* of most policy formulation. What is surprising, however, is that one area appears to come out on top at many, if not most, times of lobbying over IPR policy formulation. That area is geographical indicators.

A third view puts the emphasis on the necessary balancing act of distributing the gains from negotiations between sectors. Gains do not have to be evenly distributed, but political pressures often take negotiations in that direction. As some sectors stand to benefit more than others from specific agenda items – e.g. full elimination of tariffs or a reduction of non-tariff barriers – they may not be the beneficiary from IPR reforms, even if the gains from such reforms would be greater if they targeted their concerns. The other side of the coin is that IPR priorities that deliver little economic value may be given higher priority than reforms that would deliver greater economic value, simply because the IPR section of a negotiation often is seen as a convenient place to balance the distribution of benefits.

There are other factors influencing policy design. Yet they all tend to be slanted in the direction of shrewd or Machiavellian political economy: they are based on perceived exogenous constraints that guide or correct policy priorities rather than a narrative of what IPRs aim to achieve. This is not a satisfactory basis for policy formulation – especially as bilateral trade negotiations are increasingly with emerging markets where IPR concerns are one of the biggest problems to European firms and represent welfare losses that are far bigger than many central components of a trade agreement. One could understand a stepmotherly treatment of IPRs in negotiations with countries where other problems are of greater economic concern. But for Europe's current and future trade agenda, which inevitably will be geared towards big economies and emerging markets, policy formulation on IPRs should at least be as rigorous as in other areas.

This is not the case today. One of the pressing problems is the flailing understanding of the purpose with intellectual property rights. It affects other areas, too. The integrity of IPRs are increasingly challenged "at home" from e.g. new views on competition policy or the willingness of some governments to save money by not purchasing patented goods and services. It prompts the question: what is intellectual property protection all about?

3 The Economics of Intellectual Property Rights

Intellectual property rights are a broad family of various commercial regulations. At the centre are trademarks, patents and copyrights, but they have cousins, like geographical indicators or industrial design rights, that are related through the prohibition of unauthorised use of intangible assets. Hence, there is a degree of commonality between IPRs. However, they operate differently and are of different economic value. A patent, for example, is a temporary exclusive right while a trademark does not have a time limit. They also protect different types of economic activity – and, hence, tend to be associated with different levels of economic value for societies as well as individual actors. Another difference is that some countries sometimes differ from others in the way they protect an intellectual property. Some countries, for instance, have IPR laws of international standard, but attach little importance to the enforcement of those laws. Put differently, the narrative is not the same for all different IPRs.

This chapter will look at the narrative of IPRs – the composition and the economics of different IPRs – and discuss their rationale. Two aspects are at the centre of the narrative.

> A) The degree to which an IPR stimulates innovation and that protection in foreign markets are necessary to stimulation of innovation "at home".

B) The degree to which an IPR stimulates dissemination of innovative products and functions as a vehicle of overall economic integration.

INCENTIVISING INNOVATION

The starting point for every assessment of intellectual property rights should be the extent to which they provide incentives to innovation and creation – or, rather, to what extent they encourage (or discourage) *market-based terms for the pricing of innovations*. This touches upon a central theme for many economic analysts and policy analysts: the *incentive-compatibility problem.*

A common theme in the principal-agent paradigm of social analysis, the incentive- compatibility problem (or constraint) describes situations where it is difficult to get specific agents to act in accordance with an agreement or with a common good, particularly when an individual agent has an interest to deviate from the targeted aim. Such problems are easy to find in all parts of society and illustrate a character that all people possess: self interest.

What does this problem imply for innovation and creation? It is actually rather simple and points to the fundamental question of innovation: who should pay for them? Innovation is expensive and investments in innovation are associated with substantial financial risks. To develop a new medicine or new green energy technology, significant resources have to be invested before an entrepreneur even knows if it is possible to sell a new product to consumers. The question is: who should make these investments?

For any private, for-profit actor to take a risk, there must be a potential future reward; a reward that enables an innovator to recoup the costs by future sales. In addition, the innovating company needs to make a profit to satisfy shareholders, cover the cost of investments that never yielded a new product, and save for future investments in research and development. This is not a prohibitive problem for some innovators. But for many innovators it is the key problem – in particular for innovators developing products with large costs for development but small variable costs for each and every copy of the product. Chemical and pharmaceutical companies are good examples as they face such a cost structure: high upfront R&D costs, but low variable costs for every single unit of production. If R&D costs are measured in six or nine zeros, the variable cost for every copy of the products is almost zero. This cost pattern is by no means exclusive to chemical and pharmaceutical innovation, it is the commercial reality for many other innovators too, but it has been demonstrated that these two sectors are the most sensitive to variances in the conditions for market pricing.

But the same market conditions apply to other forms of creation and commerce. Trademarks are a good example. It is expensive to build up a trademark with recognition that helps produces and consumers to find each other by cutting information costs. That investment has to be spread out on a production where the marginal cost of production of each unit is low. In many sectors of global competition, a distinct element of the market is to compete through intangibles in addition to competition between the technical properties of actual products.

In other words: innovations and intellectual property are expensive to produce, associated with large fixed and incurred costs that represent the vast part of the total costs, but have low variable costs. This fundamental condition for innovation puts innovative activities in a troublesome position: if the terms of pricing move in the direction of *marginal cost pricing* – the consumer price reflects only the cost for producing an extra copy of a product – it is effectively impossible for many innovators to cover the incurred costs of innovation. If the value of those IPRs, such as patents and trademarks, get stymied or is at risk of erosion, very few, if any, will have the propensity to invest in new innovations or in trademarks.

The incentive-compatibility problem will be amplified if a new innovation can easily be copied – at home or in another country – and if there is risk of secondary markets with copied products.

Then the innovator will find one or several other companies free riding on its innovation and its investment in ability to compete; that is, using the innovation without having to pay for the cost of developing the product. A competitor can soon have a competing product on the market, effectively making the first mover advantage insufficient as a means of raising revenues that should cover the incurred development costs. In some markets, an imitator can even establish a presence before the innovator has launched its new product. This is a clear risk for small companies facing competition from big companies that already have the production and marketing facilities needed for a rapid product launch.

Hence, the chief economic motivation for exclusive rights granted by core IPRs is to incentivise innovation. This is largely the effect of IPRs, too. It is not surprising that every granted IPR does not foster innovation; it is also important to distinguish between different types of IPRs when gauging their role for innovation. Yet the systemic effects are quite clear. Several empirical studies also confirm that intellectual property rights affect innovation and economic growth positively. There are also studies that point in the other direction – studies that do not necessarily refute root-and-branch the alleged link between intellectual property rights and economic growth, but at least show how the link can be or is distorted. Also, some studies find insignificant direct effects on growth from intellectual property rights and quite rightly suggest that other factors, when measured individually, are much more important to long-run economic growth.[3] All this suggests that empirical studies should be interpreted cautiously.[4]

This is an important note. When using large samples of countries and years, it is difficult to quantify, particularly regress, the effects on growth from intellectual property rights – more difficult than quantitatively assessing the effects on growth from *physical* property rights, primarily because the former effect is dependent on several other factors.[5]

It is of course easy to show that countries with strong intellectual property rights have higher growth, and generally are much richer, than countries with weak or non- existing IPRs. The intermediary links are the volume of investments in innovation and technological change [6]; weak protection simply lowers the readiness to invest, in particular for firms with a high share of intellectual capital in the capital stock.[7] Similarly there is ample evidence showing how intellectual property rights, patents and trademarks in particular, positively stimulate growth in certain sectors.

But if one is to nuance the general analysis and break down intellectual property rights, the picture gets somewhat blurred. For example, no one can tell the optimal level of intellectual property protection and point exactly to the optimal trade-off between incentives to innovation and what an economist would call extraction of rents.[8] Indeed, it can be difficult (if not impossible) to tell whether a certain reform would result in a certain outcome. It largely depends on other matters and policy choices.

However, of the studies using more sophisticated methods to study the role of intellectual property rights for economic growth, the vast majority conclude that their influence is significant and positive, in particular once other factors are taken into consideration – factors such as trade,

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3 See for example Gould & Gruben (1996) and Claessens & Laeven (2003).

4 Maskus (2000) reviews some of the empirical studies and discusses different aspects of the role of IPRs for economic growth and development – aspects that stress positive as well as negative roles.

5 Just to give one example: the absence of physical property rights has greater effects on growth, and welfare generally, than the absence of intellectual property rights because the former are more fundamental for economic activity than the latter. A country with effective physical property rights can experience long-run economic growth despite the absence of IPRs, but a country lacking physical property rights will rarely grow even if it has effective intellectual property rights.

6 Kanwar & Evenson (2003).

7 Claessens & Laeven (2003).

8 Of course, this does not mean that people refrain from asserting that they do know the optimal trade-off and can prove it objectively.

investments and regulations. Economists David Gould and William Gruben, for example, found little effect on growth from intellectual property rights, but when IPRs were combined with openness to trade the effects were significant.[9] That is, the growth effect of intellectual property rights is significantly higher in countries pursuing an outward-looking trade policy than in countries preferring a foreign economic policy of the isolationist ilk.

PATENTS, TRADEMARKS AND COPYRIGHTS: ECONOMIC INCENTIVES

There is a problem, though, with many of the large cross-country and cross-sectoral studies of IPRs; not all IPRs have the same economic effect and treating them as though they do is not helpful for policymakers that need to formulate policy and priorities. It is not surprising that protection of trademarks is central to economic activity. Similarly, it is quite clear that patents and trademarks have a stronger effect on investments in innovation, output and economic growth than other IPRs.[10] This has also been shown in a recent study by the European Patent Office (EPO).[11] The EPO study found that trademarks are the most important IPR when defined by the value of GDP they generate and how many people they employ. Trademark intensive production, it showed, represents about 34 percent of the total EU economy. Patents are the second most important IPR for the economy as patent-intensive industries represent about 14 percent of the EU economy. Interestingly, copyrights and particularly geographical indicators do not come near the same importance for the economy.

One can quarrel with studies like this, arguing that in many sectors production are protected by both patents, trademarks and copyrights. Furthermore, some scholars rightly complain that patent authorities have been too lenient in testing novelty.[12] Yet such behaviour does not deflate the value of patents. Novelty still has to be proven and in highly competitive sectors an actor that has been awarded a patent needs to be sure of the underlying novelty in order to defend it in court. Hence, few serious studies refute the notion that research-based innovations are stimulated and incentivised by patents, especially in certain sectors. It is common, however, to find critics shining the spotlight on copyrights and challenging the idea that this sort of intellectual protection is necessary to stimulate innovation, especially when represented by artistic and creative activity.[13]

Differentiation of IPRs is hence necessary when estimating their economic value. Differentiation is also necessary for policy formulation and understanding the wider narrative. As a first approximation it seems reasonable to differentiate on the basis of what an IPR is supposed to protect – especially the value the protected IP represents for the overall economy. *Patents and trademarks then play in a different economic league than others,* especially copyrights and geographical indicators. Within the confines of a single IPR, it also seems reasonable to differentiate on the basis of the sensitivity to exclusive rights; innovation and creation in some sectors is more dependent on exclusive rights than in others.

Differentiation is a necessity for understanding the economic value of IPRs. Yet it is not about assessing, even less about rejecting, the fundamental value of a particular policy. Hence, it is not correct to say that de-prioritised policies are of no economic value, let alone no societal value. This is an important distinction in discussions over copyrights especially. It is arguably correct to make a clear economic distinction between patents or trademarks, on the one hand, and copyrights, on the other hand: the latter do not stimulate innovation and creation in the same order of magnitude as the former. There are also economic problems associated with copyrights – their long duration, for example. Copyrights have a much longer period of exclusivity than

[9] Gould & Gruben (1996).
[10] Greenhalgh & Rogers (2007) offers a good survey of research literature.
[11] European Patent Office (2013).
[12] Maskus (2000); Jaffe & Lerner (2007).
[13] Lessig (2005).

patents. Given the primitive system for registration of copyrights, the longer term means copyrights are provoking higher potential transaction costs than patents. Moreover, the long period of exclusivity is difficult to defend from an economic point of view; it is impossible for an artist to discount incomes from the protected property 50, 70 or 100 years into future. A copyright valid for 70 years after the originator has passed away can hardly be defended on the ground that the copyright provides better ways to finance development costs and give incentives to artistic creations.

Copyrights should arguably be reformed. Firstly, there needs to be a better way to differentiate between copyrighted work and the need for protection to recoup investments. Secondly, the period of exclusivity should be shortened. Only a few artistic creations need longer periods of exclusivity than patents. A third observation could also be added: there is no economic motivation for using bilateral trade negotiations to expand the period of exclusivity in other countries.

However, the case for reform is profoundly different from the case for the abolition of copyrights. None of the above suggests that no period of exclusivity can be defended on economic grounds. Separating the two is important because they rest on two opposing accounts of the role played by copyrights in artistic work. These accounts are also important in the analysis of the design of external policy to defend intellectual property rights. Hence we need to dwell a bit deeper into the economics of copyrights in order to better understand what role it could play in external IPR policy and in a policy narrative.

Periods of exclusivity can be argued on economic grounds, and the benefits of long terms, which do exist, are likely to offset parts of the negative economic effects.[14] Extensive exclusivity terms can lower the potential risk of consumption congestions that arise if copyrighted material can freely be used without authorisation. Take Disney as an example: if everyone is free to use Mickey Mouse – if Mickey Mouse is part of the public domain – the interest for this figure can easily be exhausted by the overexposure, and thus lower the total economic value that can be created by Mickey Mouse in the longer run.

Another set of economic arguments in favour of longer periods of exclusivity challenges the oft-used dichotomy between incurred costs of creating an intellectual property and the cost of disseminating it. Let us continue with the example of Mickey Mouse. In order to be an attractive item on the market, there needs to be additional investments in Mickey Mouse. He needs to be marketed and perhaps changed in accordance with new customs and tastes. These expenditures, normally viewed as costs for dissemination, are directly linked to the intellectual property; if these costs are not incurred, the value of the property would diminish. This is true for many copyrighted creations and must be taken into account when analysing the economic utility of copyrights and discussing the optimal duration of exclusivity.[15]

These considerations are generally not part of the copyright critics' armoury. Indeed, many critics shun economic analysis and rather direct the attention to the motives for artistic creations, asserting that economic consideration is hardly of interest at all since artists –painters, musicians, sculptors, actors, or creators of computer games – are driven by creative zeal. In combination with the common practice of cross subsidisation in artistic work[16] – having a 'regular' job beside the artistic work, for example – the alleged lack of economic motives for creation stimulates the idea of copyrights being of no use and having no sizable, let alone measurable, effect on incentives to artistic endeavours.

Such criticism is silly. It is of course true that many artists create regardless of economic reward. But it is also true that many artistic projects require resources, which are not in the hands of

[14] Posner (2005).

[15] However, no empirical study known to this author has looked into this yet.

[16] Corrigan & Rogers (2005).

the artists, to be able to create, or to reach consumers. Not surprisingly, artists and creators also respond to economic incentives – and disincentives. But hard economic evidence rarely finds its way into the views of principled critics who rather build their case on anecdotes. It has been asserted that artistic creations were plentiful and of high quality long before copyrights were rooted in societies. Mozart composed beautiful music, despite the lack of a real copyright protection; the Grimm brothers wrote their stories without effective protection against copying. In other words: the sheer presence of artistic work before the institution of effective copyrights was rooted proves that the incentive-compatibility problem is not a genuine problem for artistic creations. There might be actors responding to financial incentives in markets of copyrighted products, but they, it is asserted, are often profit- driven economic agents and not artists, responsible only for market creations or take them to consumers. Hence, copyrights benefit the 'middleman' but not the artist.

Yet anecdotal evidence provides little comfort for those sceptical about the conditions for artistic work in a copyright-free world. Firstly, historical examples are of little use when discussing incentives and rewards today. Much is different today from the age of Mozart. The demand for artistic work, for one, has grown along with the size of population and income. The quantity and value of copyrighted property is much larger today and the share of the work being financed by financially independent artists, by patrons or done on commission are much smaller. Technological development has spurred artistic work – but also the ease with which one can imitate. Simply put, the market for artistic work has changed considerably. It is much more commercialised and artists, willingly or not, have generally been forced to expand volume in order to get sufficient revenues.

Secondly, copyrights were of smaller importance before effective methods to copy artistic work had appeared. When Mozart lived you could not duplicate his work on a CD or an LP – not even on a tape. Or, to take another typical copyright sector: a copyright of a book before the invention of the printing press simply did not have any true economic value.[17] Intellectual property rights generally have evolved in largely the same way as physical property rights. As institutions they were of small economic use before society had developed to a point where property rights were central in solving disputes and before you had valuable property. Physical property rights became economically meaningful after the hunter-gatherer period, post the Neolithic revolution, when people settled down and started to cultivate land. As the extent and value of physical property grew, property rights expanded in scale and scope. It was not a simple linear evolvement; it came by in an evolutionary way where different institutional alternatives competed with each other.

Such an evolutionary taxonomy is largely descriptive of expanding intellectual property rights, too. They largely arise as a function of real economic concerns; when the value of intellectual property becomes considerable, and when proprietors get challenged by imitators, intellectual property protection becomes economically meaningful to individuals and to the society at large.[18] Patents, for example, were used for the first time in the fifteenth century but were not rooted in jurisprudence before the eighteenth century. Even then, patents were not widely used – that happened when the value of patents became instrumental to economic activity and when other natural obstacles to imitation had diminished.[19] This is not to suggest that such considerations have been the only consideration involved in the history of intellectual property rights. Inarguably, other explanations can be found to the many alterations of intellectual property protection. However, viewed in a longer perspective, it is obvious that intellectual property rights have evolved in tune with technological development and the rising societal role of innovations.

[17] Posner (2005).

[18] Epstein (2006) and North (1980) discuss an evolutionary view on property rights.

[19] Mokyr (1990).

Thirdly, copyrighted creations are associated with development costs and are faced with a similar dissonance as in the terms of pricing for research-based innovations (incurred costs/marginal cost); a movement in the direction of marginal cost pricing implies that many artists cannot cover incurred costs and are then less likely to create. This is of course true for copyrighted work in sectors like computer software with significant upfront development costs; but also for artistic work of the traditional ilk. To write a historical book about, say, the Second World War, demands high fixed costs – research, archive studies, travels, editing, fact checking, et cetera – before it is commercially interesting. If such a book was to be in the public domain immediately after publication, very few authors would have the resources needed to justify years of historical research. Very few publishing houses would be willing to publish books.

Fourthly, the notion implies that all creators, unlike the exploiting middlemen, do not respond significantly to economic incentives and financial rewards. Or to put it in economics speak: there are no variations in the supply curve for artistic work; the supply curve is flat.[20] This is a silly supposition. As most other human beings, artists respond to financial incentives and rewards. "No man but a blockhead ever wrote except for money", wrote Dr. Johnson. One does not have to go that far. Not only do artists respond to incentives; they also respond to incentives facing other agents in the supply chain.

Furthermore, proponents of a copyright-free world make the mistake of treating all artistic work as identical as far as incentives are concerned. Individual vagaries and inclinations, for example, or economic concerns such as market segmentation and supply chain differences are not legitimate sources of concern, if they at all exist. There is no room for such differentiations in the copyright critics' refutation of copyrights' economic rationale.[21]

Hence, there is an economics case for copyrights. But it is different from the case for patents and trademarks, and it is not – by far – as strong. The weaker economics case for copyrights is also reflected in considerations of what role copyrights could have in external IP policy. Many, if not most, countries already offer copyright protection which goes further in period of exclusivity than is motivated by economic analyses. The external arm of copyright policy is therefore weak as far as laws are concerned. There is a legitimate case for advancing enforcement of copyright laws, but ambitions of enforcement are not that easy to build into an agenda for trade negotiations. There is also a difference between patents and copyrights in the role played by foreign markets in upholding the integrity and value of exclusivity. To understand this difference, we need to have a better idea of the economics of diffusion of new innovations and creations.

4 The economics of technology diffusion

The chief economic argument for intellectual property rights is that they help to solve – or at least decrease the significance of – the *incentive-compatibility problem* by giving exclusivity to the holder of a patent, trademark or a copyright. In normal speak this means that innovations or artistic work cannot be used freely or without authorisation if it is protected and has been granted legitimately. Therefore, those not in possession of an innovation cannot appropriate or use it unless he or she has an explicit agreement with the holder of the IPR protecting the specific innovation he or she wants to use.

Critics of intellectual property rights often claim that this exclusivity raises the transaction costs and slows down, sometimes significantly, the pace with which an existing technology is

[20] Corrigan & Rogers (2005).

[21] In a study of the music industry (similar studies of other copyright-intensive industries do not exist), Towse (2003) points out that the distribution of income from copyrights is highly skewed; a small number of superstars get a lot of money while the vast part of copyright holders do not get much at all. This reflects many things: the quality and popularity of the music, for example, but one of the factors defining the income from copyrights is the incurred costs of creating and marketing popular music.

disseminated. This supposition is naturally correct in its purest form. If you have to violate the law to use an innovation, then the transactions costs are by definition high. And if it is entirely up to the holder of an intellectual property right to decide the use of the property, then the holder is not likely grant others use of it if it is against the holder's interest.

Exclusivity limits the possibility for others to use an innovation and disseminate it. It impedes an important force of growth: imitation. So critics have got this part of the analysis right. But they usually fail to incorporate the main purpose of intellectual property rights in their analyses: before a new innovation can be diffused it must be invented. As far as it is possible to tell, the world would see much less innovation without proper intellectual property legislation. Neglecting the first step, the development of an innovation, is to take Nirvana as point of departure: assuming a high rate of innovation regardless of the institutional environment for intellectual property is dishonest.

There are other concerns, too, with intellectual property rights. Technological improvements are a key driver of productivity increases in an economy, but the productivity effect arises primarily when agents other than the innovator start using the new technology. The sooner that happens, the better. The more people that start to use the new technology, the wider its effect on the larger economy. In other words: the impact of technological change on productivity is a function of the diffusion of the technology. Herein lies the main concern about intellectual property rights: do they hinder technology diffusion and productivity improvements excessively?

There might be further reasons to be concerned. When the development process is incremental and new innovations to a large extent build on older innovations, intellectual property rights might erode a society's ability to evolve in accordance with the technological development. Patents, and to some extent copyrights, might provide a gap between what can be done and what is allowed, that is artificial and not constituted by true concerns about innovation. And the development process is to a large extent incremental – and has probably become more so in the last decades. Naturally, the question must therefore be: are the inherent processes of innovation, its nature, 'demanding' less of exclusivity and more of 'open source' or public domain type of property control?

Not far from this concern has been the changing pattern in the use of intellectual property rights – the growing number of awarded patents and the strategy of patent blockades, in particular.[22] If innovators not only use the patent system to protect their innovations but also to hinder others' innovations, the system might be exhausted to a degree that severely damages the innovation process.[23]

To what extent do these concerns matter? Are they for real and do they present problems that cannot be solved within the current frame of intellectual property rights? Are there differences between various IPRs in their effects on diffusion – and what do they imply for external IP policy formulation?

The concerns are in some cases for real, but they are not of the magnitude many critics would like us to believe. Critics especially disregard the nature of markets, commercial considerations in innovation processes, and more generally, the economics of technology diffusion. Indeed, critics 'mis-overestimate', to use a "Bushism", the function of patents in technology diffusion and generally fail to give proper attention to other means by which innovators can control the extent to which information about the innovation is released and disseminated to other interested parties.

[22] Shapiro (2002).
[23] Boldrin & Levine (2008).

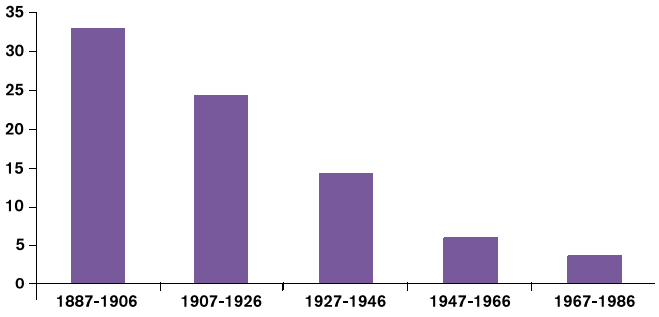
THE MODES AND ECONOMICS OF TECHNOLOGY DIFFUSION

WHAT DO WE REALLY KNOW about the economics of technology diffusion? Not much is the answer. In fact, there are very few empirical studies that have comprehensively studied IPR aspects of dissemination and how it has evolved over time. There are many anecdotes: new products that get blocked because they infringe patents, or lose their economic value because others infringe the patents of the new innovations; too broad patents or patent blocking because patents are too narrow; innovation that gets neglected due to insufficient intellectual protection; hold-up problems due to patent expiry; et cetera. Looking at trademarks, there are plenty of anecdotal evidence of similar kind. From economic history, there are of course ample stories about various inventions and how they affected society. Yet besides such anecdotes, which generally do not provide the sort of analytical knowledge necessary to answer the question above, there is still much to learn about the nexus of intellectual property rights and technology diffusion. Indeed, there is still much to learn about the processes of innovation and diffusion generally.

However, we are not completely ignorant. Some things are well-documented, if not certain: the input to productivity from technology diffusion has increased in the last decades; the pace with which new innovations become obsolete has increased; patent information is widely used by others than the patent holder; new technology gets replaced faster today than before; and imitators are launching competing products faster than before.

One fundamental, but often neglected, aspect of IPRs and technology diffusion is that exclusivity is not only confined to IPRs, and that some IPRs are principally motivated by getting innovators to fully disclose their innovations. Exclusivity rights, like a patent, are only one way for a company to control its innovations and they have not had any real economic significance until fairly recently in economic history. A much more important "break" on technology diffusion has been first mover advantage and other 'natural' barriers to entry such as network externalities, buyer switching costs, scale economies, and steep learning curves.[24] One can discuss the significance of these factors in slowing down technology diffusion today; increasing labour mobility, technological enhancements, a greater supply of researchers and research innovations from universities, and a rapid increase of the number of firms competing in a given market, among other things, suggest *a priori* that market-based barriers to entry are of much less significance in the modern economy. But in a historical perspective it is perfectly clear that these have constituted the major hinders in spreading new innovations.

FIGURE 1: DIMINISHING FIRST MOVER ADVANTAGE



Source: Agarwal & Gort (2001).

[24] See Lieberman & Montgomery (1988), Katz & Shapiro (1986), and Mueller (1987).

This was confirmed in an interesting study of erosion of first mover advantages in the United States between 1887 and 1986.[25] As shown in Figure 1, which is based on this study, there is today a relatively short time period between the introduction of a new product and the introduction of an imitation. This time lag has declined from 33 years in the late Nineteenth century to approximately three years in the mid-1980s. This erosion of the first mover advantage suggests that the effective period of exclusivity, manifested in one way or the other by what economists call a *quasi-monopoly*, has decreased considerably.

This is a clear indication of the development of technology diffusion. It does not imply that the monopoly instilled by an intellectual property right has become useless. On the contrary, the rise in the use of patents in the last decades is rather a function of falling first mover advantages. If natural barriers to entry no longer provide sufficient possibilities to recoup fixed costs, exclusivity rights become more important. Furthermore, this development shows that the exclusivity period has naturally narrowed as markets have expanded due to increasing possibilities to trade. If an innovator in the late 19th century only had the market in one country to use for covering the incurred costs, it now has a global market, which means these costs can be covered sooner than before. The flip side of the coin, however, is that the ability of companies to recoup investment can be damaged by behaviour in foreign markets.

LICENSING AGREEMENTS

Many holders of an exclusivity right do not use the creation in their own production and are not interested in using, or building up, own production facilities. On the contrary, many holders of intellectual property rights generally do not consider their innovations as inputs in their own production; they do not take a "production-oriented" view on their innovation strategies. They rather prefer a "market-based" view on the commercialisation of their intellectual property; if others can drive higher revenues and profits from using an innovation, the rational course of action for a patent holder is to sell the right to use an innovation to others. The contractual form of such a strategy is most often licensing; an innovator or originator charges a fee for authorising others to use its creation.[26]

Obviously, in the absence of intellectual property rights the market for licences would be small; only innovations that can be protected or hidden by other means would be part of the licence market. But given the existence of IPRs, the strength of them matters and cuts right into companies' commercial considerations.[27] If a licensee does not feel secure that his right will be respected, the propensity to embark on a market-oriented strategy would diminish and innovators would start to look for other strategies, such as producing the product and 'locking-in' the product by higher entrance barriers to the market.

Lately, many researchers have been particularly interested in the effects of IPRs on licensing to developing countries. A few studies have asserted that strong intellectual property regimes work against the interest of developing countries and other have suggested that a strengthening of intellectual property rights do not at all foster international technology diffusion.[28] Such claims are, however, very controversial. Many, including this author, would consider them false suppositions.

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[25] Agarwal & Gort (2001).

[26] OECD (2007).

[27] Lee & Mansfield (1996), for example, shows in a survey study that US multinational firms are reluctant to license new technology even within the company if the IPR protection is not sufficiently strong. The study covers six sectors and shows how IPR regimes gets more important to licences the higher the stage of production. The chemical sector, including pharmaceuticals, is most sensitive to IPR regimes. Mansfield (1995) also concluded that the earlier findings in US firms also apply to German and Japanese industries.

[28] See for example Lanjouw (1997) and Grossman & Lai (2005). Chang (2002) and (2008) take the analysis a bit further and suggest that intellectual property rights reform, as well as trade-liberalising reforms, have generally been detrimental to developing countries.

Intellectual property rights such as patents and trademarks, especially the latter, are important to developing countries for a variety of reasons. First of all, they are key to the development of domestic firms dependant on intellectual property. This is of course more important to advanced developing countries than to extremely poor countries such as Bangladesh or the Democratic Republic of Congo.

Secondly, weak intellectual property rights negatively affect exports to developing countries.[29] Companies that export to another country must be assured that their products are not copied or misused locally in a way that destroys profit opportunities in other markets. Parallel or illicit trade, particularly if it is based on extensive price discrimination, is one of the concerns involved for companies exporting to developing countries.

Thirdly, the presence of intellectual property rights is a precondition for foreign firms to license technology to affiliates or cooperating firms in other countries. A weak or non-existent IPR regime means that developing countries will be saddled with old production technology.[30] True, in some instances licences can be substituted by inward foreign direct investments (FDI), particularly if the host market is sizeable and, *nota bene*, if companies are confident they can control their technology from getting into the hands of other and competing companies. But this is a rare phenomenon. It is more correct to say that intellectual property rights positively affect FDI to developing countries. One of the leading academic economists on intellectual property rights, Keith Maskus, found in an interesting study of patent strength in 46 countries that foreign direct investments are affected by the quality of patents in developing countries. A one percent rise in the extent of patent protection, *ceteris paribus*, would on average result in the US FDI stock expanding by 0.45 percent.[31] Again, studies such as this should for methodological reasons be interpreted cautiously, but there is no doubt that the effect on FDI from intellectual property rights are positive and significant.

What is the explanation? Before a foreign investment involving valuable patent can take place companies must be ensured their innovation does not get imitated by others. A good standard of IPRs also signals that a country is serious about improving its general business climate and thus serves as a proxy for the overall regulatory standard.

Furthermore, intellectual property rights are one of several determinants of FDI to relatively advanced developing countries that are climbing the technology ladder.[32] Foreign investors are less likely to be sensitive to IPR standards if their trade is based on old technology or standardised, labour-intensive technology. However, for companies in possession of valuable intangible assets, intellectual property rights are preconditions for direct investments as well as licensing. Thus, IPRs are also one (of several) preconditions to technology transfer to developing countries.[33]

Overall, it is easy to see the benefits of strong intellectual property rights for licensing and technology transfers. A study by three economists also reached this conclusion after reviewing the effect on licensing from reforms of IPR regimes.[34] Studying affiliate-level data on multinational firms in the United States after IPR reforms in 16 countries between 1982 and 1999, the authors found clear evidence of increasing royalty payments at the time of the reforms.

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29 See for example Maskus & Penubarti (1995) and Smith (1999). A particularly interesting conclusion of studies over intellectual property rights and trade is that effect is very strong in low-technology trade, such as trade in clothing. An effective trademark regime means companies do not have to worry about local imitators forcing the exporting company to lower the prices in order to discipline the imitators.

30 Young & Maskus (1998) conclude that weak patent laws deteriorate the incentives to license technology to developing countries. Smarzynska (2002) finds similar results in a study over East and Central Europe. Hoekman & Smarzynska & Javorcik (2006) discuss the importance of technology transfer to developing countries.

31 Maskus (1998).

32 Eaton & Kortum (1996).

33 See for example Lai (1998).

34 Branstetter et al (2005). Lerner (2002) found similar patterns in a study over IPR reforms in 50 countries during 150 years.

On the basis of these arguments and perspectives, there are three tentative conclusions for the quest for a narrative for external IP policy formulation. The first one is basic: the assumption of some of the IPR critics that technology diffusion would be faster in an IPR-free world is false. In fact, a strong IPR regime is essential to trade and FDI, two of the most important vectors for technology diffusion. Second, there are differences between IPRs in their effects on vectors of diffusion: patents and trademarks appear to be the central factor. Finally, in order to maximise benefits from external IP policy action, it is important to target areas with great potential for diffusion as it helps the originator/patentee (scale economies and factor proportion advantages) as well as the destination. But the analysis does not stop there. To better understand the economics of diffusion for various IPRs, we also need to look further to alternative ways to protect an innovation.

The above dichotomy between a market-based and a production-oriented strategy is better described as a difference between a 'transaction-based strategy' and an 'equity-based strategy'. The former implies licensing while the latter is based on using innovations in own production. The transaction-based strategy has some *prima facie* advantages over the equity-based strategy as far as technology diffusion is concerned. An innovator does not need to incur fixed costs for integrating the innovation in a product and thus has smaller costs that need to be recouped. When choosing the equity-based strategy, the value of the exclusivity rises, but the incentive-compatibility problem also grows bigger.[35]

What do these considerations imply for our analysis of diffusion and external IP policy formulation? Firstly, licences distort the simple analysis of two alternatives – exclusivity or free use – and suggest that exclusivity in many instances does not equal a temporary monopoly that restrains the possibility of others using a new innovation. There is still a transactions cost – the licence fee – but it hardly prohibits others from pursuing their commercial plans. Licences enable commercially viable enterprises to use an innovation in other forms.

Secondly, the alternative to intellectual property rights is not and can never be a totally transaction-based market for new innovations. If costs cannot be recouped on the terms of exclusivity, then producers must find other ways to cover the incurred development costs. If that is at all possible, it will largely be accomplished by locking- in innovation and new creation in products and networks, massive investments in trademarks, and an excessive interest on the part of innovators in market dominance and to compete by means that competition authorities generally dislike. This is an important aspect. Many of the IPR critics suggest that exclusivity rights distort markets and provoke investment strategies and behaviours with low, let alone negative, societal value.[36] Obviously, it is easy to find examples of IPR "abuses" even if the systemic effects are positive. No system is in every respect ideal. But this critique assumes that the alternative to exclusivity rights is a neoclassical Nirvana with instant market clearing, no transaction costs and few if any investments by innovators to protect their innovation from use by others. This is a dishonest supposition. The reality is that those firms who would maintain innovative capacity would have to protect innovations by other strategies, and in most cases it is a strategy that would make the transaction-based model more difficult to operate. For costly innovations, the sheer existence of IPRs helps firms to branch out from equity- based approaches to innovation.

THE ROLE OF COMPETITION IN TECHNOLOGY DIFFUSION

The core essence of an IPR is to give the holder exclusivity to control the use of the particular asset. In this respect, a patent or trademark intends to make the holder less subject to competition. Naturally, this affects static competition negatively, but it does not mean IPRs

[35] McCalman (2002) quite rightly points to factors that distort a clean choice between transaction or equity (sector, market and product specific factors), but in a study over distribution to other countries he finds that movie companies rapidly increase the use of licences and that an international standard of intellectual property rights is associated with a high degree of licensing.
[36] Boldrin & Levine (2008).

drain a specific market of competition. Intellectual property rights are, in the first place, pivotal to the development of something to compete over, but they facilitate competition in other stages of the market, too. Again, it is important to understand the entire context of the commercial-regulatory framework to assess the economic effects of IPRs.

Trademarks, for instance, tend to have strong effects on competition by making the competitive process more distinct. Sometime they can lessen competition, especially if there is not already a vibrant competition on a particular market. Then trademarks can raise entry barriers to the market. Patents, on the other hand, are often imperative to the commercialisation and dissemination of new innovations. Many firms generating new innovations are not equipped with other tools to restrict imitation. Nor do they possess production facilities that, if the firm chooses an equity- based strategy, can take the innovation quickly to the market. Furthermore, if it as a small research-based company, they will probably have insufficient resources to invest in the diffusion of the innovation.

Various investors can assist such firms with financial muscle, but they usually consider the possession of a patent – or the likelihood of getting a patent – as a precondition to investing in a small R&D based company. Venture capitalists do not act differently from others; like other agents, they consider the financial merits rationally and look for opportunities to make a good return on investment. What characterises venture capitalists is that they generally know little about the innovation per se but have greater knowledge about markets and production structures. This is why venture capitalists typically place more importance on intellectual property protection than a large multinational firm. Outside suppliers of capital and market knowledge generally do not possess extensive knowledge about possible technical applications of a new technology and how it can be extended to other areas in order to make the most of it. Therefore, the core innovation, and the protection of it, has, at the margin, a greater value to them than innovation that gets the funding from internal company sources. This is also the explanation for why patent intensity has increased in accordance with growing volumes of venture capital.[37]

Now, what does this imply for technology diffusion? It simply means that a competition process open to start-ups and other new firms entering a market, financed by venture capitalists, presupposes intellectual property protection. Such competition from new market entrants may not be possible unless intellectual property can get temporary protection.

There is also a wider perspective on the role of competition in innovation-intense markets. The exclusivity given by an intellectual property right intends to provide the holders with better possibilities to recoup investments in innovations. But does it mean that the holder of an IPR behaves as a traditional monopolist? Does he or she just extract monopoly rents and refrain from further development as long as long as the monopoly is valid? One could of course points to examples of such behaviour. An amusing example can be found in Nick Hornby's best-selling book *About a boy* in which one of the characters (Will, played by Hugh Grant in the movie) lives an untroubled, idle and work-averse life as he receives a steady stream of royalty fees from one of his late father's compositions – *Santa's Super Sleigh*.

Is Will a typical IPR possessor? Hardly. True, in some markets exclusivity rights can foster idleness – particularly in some copyright sectors. But for most holders of intellectual property protection, competition is still stiff and the company must, as all others, continuously concentrate on product development to get competitive advantages.

[37] See, for example, Kortum & Lerner (2000).

5 Trade and IPRs: Making priorities for TTIP and trade talks

The past chapter has examined the economics of IPRs, and how various IPRs, primarily patents and copyrights, differ from each other. At the centre have been the two core concepts of the IPR narrative: *incentives to innovation* and *technology diffusion*. They have been central to the IPR narrative for a long time but their relevance has only increased as the European economy has become more globally oriented. In fact, globalisation itself has made appropriate IP protection even more important. Why?

Firstly, economic globalisation means that the division of labour – the force of specialisation – has become global. Countries have through the global market process experienced a considerable upgrade in the level of specialisation which for Europe has implied a greater resource concentration to production higher up in the value-added chain. Such production is to a significant degree dependent on knowledge, R&D, innovation and trademarks. Hence, Europe's welfare is dependent on regulatory conditions that help to facilitate its move up in the value-added chain.

Secondly, a strong factor behind the globalisation of European blue chip firms has been the fragmentation of supply chains. A pre-condition for such supply chain globalisation is protection of intellectual property and the assistance by authorities in home countries to uphold intellectual property rights in the event of infringement.

Thirdly, globalisation has generally increased competition between firms and reduced the natural barriers to market entry. Brand strategy and first-move advantage are today weak protection for those firms needing to recoup investment costs.

Fourthly, globalisation has empowered illegal imitators to capture significant parts of the market. Illicit trade is no different from legal trade: it has grown on the back of reduced real and artificial barriers to trade. A recent study found that about 75 percent of surveyed companies in Sweden had been exposed to IPR violations. [38]

An IP narrative and policy for a modern economy also need to accommodate the differences between IPRs. Past sections have established a narrative that gives an endogenous basis for determining what is important and what is less important for IP policy. Again, the analysis only takes account of economic aspects, and it does not attempt to substitute all other grounds for decision making. Importantly, an informed decision on the basis of economics also needs more distinct knowledge about the real economic profile of Europe's economy and what type of activity that would benefit the most from external IP actions.[39]

Table 1 summarises some of the previous discussions – and adds a couple of new elements to the analysis. The first substantive column highlights some of the characteristics of IPRs that are of relevance for getting a better understanding of policy formulation. The second column lists some of the key external concerns – that is, concerns over policy and enforcement in other countries outside the European Union.

[38] Black Market Watch/Confederation of Swedish Enterprise (2015).

[39] This is the subject of the next chapter.

TABLE 1: PROFILING IPRS AND PRIORITIES

	Relevant aspects	External IP concerns	Sectoral priorities
Patents	-Protect investments in R&D and innovation -Patent sensitivity varies between sectors, but patents protect behaviour that is sensitive to conditions for recouping upfront investment -Global competition between innovators, often on markets characterised by oligopolistic competition to rather than at the market -Global framework for patent registrations -Global framework for secondary market -Facilitate diffusion, also cross-border diffusion -Patented products geared towards producer markets rather than consumer market, why brands do not give much protective support	-Insufficient IP laws in selected emerging economies: especially effective scope and duration of exclusivity -Insufficient IP- regulatory framework in many countries -Insufficient institutional framework (e.g. infringements and appeal rights) in selected emerging economies -Institutional biases against foreign firms in selected emerging markets -Counterfeiting	-Pharmaceuticals -ICT -Chemicals -Biotechnology -Nanotechnology
Copyrights	-Protects a variety of activities, but mostly artistic creations -No system for registration of copyrights -Licensing in selected copyright sectors, but transaction-model is overall a small phenomenon -Long exclusivity periods cannot be defended by economic analysis -Often cheap and easy to imitate -Significant price differences between markets	-Counterfeiting/ piracy	-Software or computer-based innovations that can get copyright but not patent protection -Software with high content of artistic designs
Geographical indicators	-Protect selected areas of food and beverage production -Protect companies on foreign markets -Global system for acknowledging protected goods -Support scale economies but do not give factor proportion benefits (e.g. outsourcing of production). -GI-goods often protected by brands and trademarks	-Price competition	
Trademarks	-Fundamental to economic activity; the most important IPR for GDP. - Central for competition and cross-border integration	-Counterfeiting	-Consumer brands with ability to price discriminate between markets -Protection of brands, distinctive designs, names or composition of products and services.

The question now is: is it possible to design policy on the basis of this analysis? Yes and no is the answer. This analysis alone is not a sufficient basis on which to ground policy and priorities, but it guides policymakers in the right direction if the ambition for policy is to reflect core commercial concerns and maximise economic gains through external IP policy. Furthermore, it also puts the light on "endogenous priorities" for external IP policy formulation: what IPR areas need a stronger external IP arm in order to maintain IP integrity and efficiency. A couple of the observations merit longer explanation and commentary.

Firstly, if various IPRs are compared, it is reasonable to put the emphasis in external policy on trademarks and patents. These are the areas where the big policy problems are for European firms with global exposure. They encounter insufficient IP laws and regulatory frameworks in many countries, especially emerging markets. Adverse conditions for such IPRs have negative effects which extend beyond the single material interest of the holder; trade, FDI and stronger cross-border integration are affected, often to the detriment of other countries. Moreover, the types of economic activity that can receive protection from patents and trademarks are by nature global, and subject to global competition; this is why adverse conditions in another country impede on the integrity and efficiency of the exclusivity right.

Secondly, the degree of IPR sensitivity varies between sectors: some are more dependent than others on the integrity of exclusivity rights to enable upfront investments in innovation to be recouped. The terms of market pricing are one factor behind the degree of sensitivity: sectors at risk of marginal pricing in the event of ineffective exclusivity are more sensitive than others. Little or no effective opportunity to price discriminate between markets is another factor of particular importance for external IP policy: a combined trend towards global and marginal pricing can instantly disable the integrity, and hence the economic value, of a patent. Sectors that operate in the producer market, or with buyers that are not end consumers, typically have a higher degree of patent sensitivity than sectors that sell directly to consumers. In the latter sector, brand promotion and other strategies to inform consumers about choices can help to protect the integrity of exclusivity. In the latter sector (and perhaps most notably in the service industry), the core intellectual capital (such as brands) is more typically registered as trademarks rather than patents. They are used to inform consumers about choices, or to protect the integrity of exclusivity. The key here is to avoid preventing companies from the abilities to use the trademark. As long as the trademark can be used, consumer-oriented companies are more interested in combatting illicit activities rather than changing laws.

Thirdly, it is difficult to find economic justifications to put copyright concerns in the top league of priorities. Copyrights are already much longer than is economically motivated. There is not an efficient system for global registration and transfers of copyrights; a handful of subsectors might have established practices for the secondary market, but overall it is not working well. Furthermore, the chief problem for copyright sectors is not one of IP law; it is rather counterfeiting that disturbs sales. And counterfeiting problems are difficult to address in a bilateral trade negotiation.

Fourthly, geographical indicators, the oft-prioritised area in EU external IPR policy, have a weak (but not non-existent) economic justification. It is difficult to see GIs as something more than a way to avoid price competition. There are costs associated with establishing a geographical brand, like champagne or Parma ham. But the cost is almost indistinguishable from general market promotion of goods and brands, which is necessary regardless of whether geographical location is relevant or not. Furthermore, there are no positive spillovers from extending GIs to other countries, and such a move cannot facilitate relocations on the basis of cost and comparative advantages. This is not to say that there is no legitimate case for GIs; only that the economic underpinning is weak.

Finally, in an endogenous approach, it is difficult not to put the emphasis on patent and trademarks, and their broader regulatory context. In comparison with most other IPRs, maintaining and improving the integrity and economic value of patents and trademarks are directly and positively associated with incentivising valuable economic behaviour – investing in innovation and abilities to compete – and speeding up diffusion of innovations. This is not to say that they work in an ideal fashion: nor is there a disregard for potential costs associated with a strong patent system. However, to the EU economy, patents are fundamental for economic strategy in a way that most other IPRs cannot match.

These five points should inform European policymakers as they attempt to formulate an external IPR policy – now together with the US and Japan in current trade negotiations. There is an emerging global system for IPRs, but it needs not just maintenance but also reform. To prosper on the back of globalisation, there are some IPRs that are more important than others – and need more urgent attention than others. That attention is required both at home and abroad.

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