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Briefing

Considerations for researching current and emerging issues in the patent market

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1. Introduction

Much attention has been devoted to what might be broadly called the "patent market" and how it is performing. Some have opined that the patent system is "chaotic" and "not fit for purpose," and therefore in need of great reform. Others have gone further to claim that the patent system undermines innovation and should be dismantled.[1] Others have pointed to the unprecedented technology advances, notably relating patented technology, that are now occurring with increasing rapidity. In connection with all of these positions, many trends have been identified, along with numerous theories and solutions that should be pursued.

Emerging from this discussion the following is clear: Europe needs to foster a risk and innovation culture in order to deliver dynamic benefits to the European economy. To facilitate this innovation dynamic, including investment and invention incentives inherent in the patent system, it is critical to have a proper understanding of the issues at stake and, if there are problems, that these be accurately defined and proportionately addressed. Caution must be taken to avoid imposing policy choices that will undermine incentive to invest, to invent or to share technology.

It is therefore incumbent on the European Commission to ensure that policies are well founded and based on empirical, real-world data. As most recently noted by the European Commission, in

[1] *See, e.g.*, T. Worstall, *The Tabarrok Curve: Why the Patent System is Not Fit for Purpose*, FORBES MAGAZINE (Jun. 23, 2013), http://www.forbes.com/sites/timworstall/2013/06/23/the-tabarrok-curve-why-the-patent-system-is-not-fit-for-purpose/ ("*It isn't entirely necessary that we have a patent system: certainly not the patent system that we have.*").

the context of patent policies of standardisation organisations, "*Potential changes in the IPR framework would need to be carefully studied and extensively tested with all stakeholders.*"[2]

2. Academic Research and Policy Formulation Should be Robust

Missing from the patent policy dialogue has been a body of robust, objective and unbiased assessments of how the "patent market" is performing. Even more basic, clear definitions of key terms are lacking. Currently the academic and policy debate is replete with vague and emotive expressions (usually negative), such as 'patent trolls', 'strategic use', 'patent thickets', 'patent abuse'. Not only are these terms vague and subjective, they cause confusion and hinder effective research into actual marketplace conditions involving patents.

For example, 'patent tickets' are a recognized phenomenon in certain industries and theorizing and speculation has occurred about their negative competitive impacts in patent markets. In turn, proposed solutions based on such speculative problems have been made. Yet, a 2012 study commissioned by DG Competition noted that "*we currently know next to nothing about the size of the inefficiencies associated with patent thickets*",[3] and in the same year the EPO Economic and Scientific Advisory Board found that the mere existence of patent thickets does not necessarily imply social inefficiency or a competitive problem.

This is not to say that efforts have not been made to obtain a better understanding of patent activities. For example, in 2014, former DG Enterprise published a study entitled *Patents and Standards: A modern Framework for IPR-based Standardization*. This study, which focused only on a discrete aspect of patent activities - use of IPR in connection with standardization -

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[2] See Section 6.1., page 9 of the Communication from the European Commission to the European Parliament, Council and European Economic and Social Committee, The annual Union work programme for European standardisation for 2016, COM(2015) 686 final, 8 January 2016. Emphasis added.

[3] See *Assessment of Potential Anticompetitive Conduct in the Field of Intellectual Property Rights and Assessment of the Interplay Between Competition Policy and IPR Protection*'
http://ec.europa.eu/competition/consultations/2012_technology_transfer/study_ipr_en.pdf

contained a number of flaws. For example, it appears that the authors started their research on the assumption that endemic problems existed in connection with standards essential patents. Maybe more significantly, the methodology used in gathering data involved a statistically insignificant sample that would argue against drawing too broad conclusions. Another example is the US Federal Trade Commission (FTC) also has undertaken a Section 5(b) study of activities of what it calls Patent Assertion Entities ("PAEs"). The methodological weaknesses of this study have also been identified given the small sample size used for the study, its focus on licensors activities only as well as other limitations, and the US FTC itself has recognized the limited utility the study will have for policy development.[4]

Research commissioned by the EC should therefore seek to provide a firm empirical foundation, especially where resulting policy initiatives may have a significant potential impact on the European economy. This approach is consistent with the Impact Assessment Guidelines, which note that "*good quality data - facts as well as figures - are an essential*". [5] Indeed, as the then EU's Chief Scientist reaffirmed, market impact assessments should be transparent and all stakeholders should have the ability of weighing evidence against evidence.[6] Evidence relied upon that is to meet a political or policy agenda, rather than full and good quality data, is not reliable.[7] The same logic should apply to EC studies.

Given the role that the protection of intangible property has in fostering investment, risk enterprise, growth and dynamic innovation, especially as relates to smaller companies and

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[4] See *What can the TFC's §6(B) Study Teach Us? A Practical Review of the Study's Methodology*. By Anne Layne-Farrar, Charles River Associates; Northwestern University, January 25, 2016 at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2722057. See also Statistics and the Paperwork Reduction Act: An FTC Case Study. By Ftitz Scheuren, University of Chicago, January 25, 2016 at http://ssrn.com/abstract=2721855.
[5] EC Impact Assessment Guidelines, 15 January 2009 (SEC(2009) 92), at p.18.
[6] *EurActiv* Interview of Anne Glover, EU Chief Scientist (Aug. 6, 2014) at http://www.euractiv.com/sections/science-policymaking/when-science-meets-politics-eus-impact-assessment-review-307765.
[7] *Id.*

research institutes, it is especially critical that and EC research is accurate, robust and contextualized.

3. Understanding Patent Activities Broadly; not just the right to exclude

Patent activities should be understood broadly and holistically. Even before efforts to patent an invention occur, investment of time, capital and innovative capital are required. Only if these are successful do such efforts result in a patentable invention - which in itself is not a certainty; the filing and prosecution of patents is the next step that might be taken. But this doesn't just end at the grant process.

If an inventor is fortunate enough to have a patent granted, this patent is 'only' a legal emanation of a technology. Its value in the market is still reliant on numerous tensions, including effective commercialization, given that the mere issuance of a patent will not insure commercial viability of the invention. Again this requires investment of capital and the development of strategies that will allow the inventor or patent holder to monetize the patented invention either through its own exclusive use or by allowing third parties to use the invention through licensing or other transfers of rights.

At each step, the involvement of multiple "players" with varying interests exists. Of course, the 'value' (maybe 'relevance' is a more appropriate adjective) depends on many external elements (ie the existence of a market) as well as elements related to the patent owner. 'Practising' the patented invention by manufacturing a technology product is by no means the only way in which patents are useful or valuable and patents can be put to many different and varied uses to promote investment in innovation and achieve return on investment.

For example:

i) Reputation / Credentials

- A business may use patents to advertise the innovative nature its products to customers and potential customers, and/or that the products have original or exclusive features, adding value in the eyes of the consumer about the unique nature of the product. See Dyson, for example, which is a prominent UK company that cultivates a reputation for innovation, which includes reference to its patents.
- In addition, a business may also wish to highlight that it holds patents to signal to its competitors and to its shareholders that it takes pride in its research and development, or the originality of its products.
- An individual or company may also see a patent as a showcase of their inventiveness, without any necessary intention of exploitation, simply to allow them to promote their skills more broadly.

ii) To encourage Investors to Invest

- Equity investors usually want evidence that a business has taken appropriate steps to secure the fruit of its R&D, and patents are critical to this. They demonstrate that businesses, and therefore their investors, will be able to enjoy the opportunity to profit from its inventions and that it will be less likely to be undercut by competitors copying its products. Equity funds routinely undertake patent audits before investing.
- Patents can be an asset whose value will contribute to the general credit-worthiness of a business, and allow it to solicit loans and credit. Indeed, a patent holder can mortgage his patents by assigning them to a bank and taking a licence back (if the business needs to practise the invention). Once the loan is repaid, the patents are assigned back to the business. And patents can also be securitised to produce tradable bonds, which may be more flexible and attractive to investors.

iii) To change the income profile of profits flowing from an invention

- A business may wish to sell patents to realise more immediately the income that it might otherwise have made during the life of the patent. This may happen when the business wishes to focus on its core business and the inventions covered by the patents are peripheral to that business.
- A business may also wish to licence its patent(s) to parties who can exploit the invention more quickly, rather than e.g. waiting until it has built up the necessary manufacturing

equipment or distribution network. Companies specialized in generating revenues from patents may be an interesting option for SMEs use, if the SME doesn't have the ability, expertise or model to maximise the value of their assets.

iv) Allow a more efficient use of the invention

- A business may be unable, or unwilling, to practise the patented invention itself in all of the ways in which it could be practised. For example, the invention may be outside the business's usual field of interest or it may lack the resources (capital, experience, management time) to implement the invention on a commercially-viable scale. In those cases the business will have to sell or licence the patent to profit from its invention. In a sense, this is a transfer of the risks and effort required to exploit a patent to the business best able to bear them and make use of the patent. The original patentee in return receives a greater profit than it otherwise would receive had it only practised the invention itself. It may also be that the transferee or licensee is in a better position to monitor infringements and enforce the patent(s) if necessary.

v) To provide an asset available to shareholders in the event of insolvency

- If a business fails, then any patents that the business has can be sold to provide a return for the shareholders and other investors and help minimise the impact of the failure of the business.

vi) Defensive patent acquisition

- Where third party patents are perceived to be a potential threat, businesses may buy those patents to keep them out of the hands of others. Businesses may also club together or be created for these purposes.

vii) Bartering

- Businesses may wish to exchange patents for other assets. If the value of the patents can be agreed upon, this saves the first patentee having to sell its patents to generate the cash for a transaction.
- Businesses may also wish to grant cross-licenses with another patent holding party, which is a significant value exchange because it enable the parties to reduce the price that their businesses might otherwise have to pay to licence each other party's patents, and this promotes 'patent peace'.

viii) Deterrence and protection

- A patent works as a general deterrent to prevent others from damaging a business's revenue from the patent holder's products. They essentially discourage potential new entrants who are unwilling to take the same innovation risks in competing with the patented technology (or it will push them to acquire patents critical to their development plans, thereby short circuiting risky and potentially wasteful R&D), and who 'free-ride' on the patentee's investments in developing and commercializing the patented technology.
- A business might also wish to have patents to deter the opportunistic assertion of patents by others against it. Such patents will often be filed or purchased with an eye to claims covering the activities of likely aggressors, so as to provide an effective deterrent.

ix) As a necessary adjunct to the sharing of information

- Where a company is obliged to disclose an innovation (for example at exhibitions, to potential investors, to the press, in standardisation working groups or in collaborations with others) then if it does not file a patent application, it will have lost any possible future right in that innovation. Such protection is critical for start-ups wishing to work with large enterprises as the start-ups will need to detail their technologies with potentially larger ecosystem partners, in order to gain credibility or market access. It might be negligent to disclose innovations in such circumstances without IP protection. This will often be the case for research organisations, start-up or SMEs or for collaborators in standards-setting organisations.

x) Transfer and dissemination of technology

- Patents are a convenient form for the transfer of knowledge, both from the patentee to the world (through the public disclosure of the invention) and as between businesses (either by assignment, licensing or sub-licensing).
- Business with similar interests may wish to form a patent pool to share costs associated with monitoring infringement and where necessary, the risk involved with the enforcement of the patents.

Over the centuries the patent system has shown itself to be a sophisticated and flexible system, continuously evolving to meet new market challenges. But at its core a patent right forms part of a "social contract" between society and inventors, with society recognizing that invention and its

public disclosure is socially beneficial and that protection should be granted to the owner of the invention, given that the knowledge is intangible and can therefore be copied once disclosed. Indeed, patents have a broad social welfare-enhancing function well beyond manufacturing. Understanding the dynamics of the broad "market" opportunities provided by the patent system -- perhaps better understood as a multisided and multilevel eco-system - should be the focus of further analysis. This is especially important given the impact of policies on these many elements.

4. Possible Areas of Research Focus

More specifically, the following issues would benefit from further understanding:

i) Patents & Access to Capital

- Use of the system:
  - To what extent do innovative SMEs or research institute seek patent protection when they are at their most inventive?
  - To what extent are SMEs, research institutes, individuals, etc, investing in basic or fundamental research - and in what industries?
- Funding trends: Who is providing the capital for basic research and what are the range of financial instruments available? What are the trends in funding (investment banks, business angels, venture capital, crowd funding, public finance, etc.)? In particular, what are the trends in access to finance; what are motivations of these funders? What are their short-medium term strategies? How is funding linked to the patent system?

ii) Patenting Activities

- *Uses of the System* (see Section III): What are the various strategic uses of the patent system ('strategic' is used in the pro-competitive sense) and what benefits are derived by the patent holder?

- *Patent 'Quality'*:
  - What are the strengths of patents issued by patent offices, by industry and technology, based on objective criteria, *e.g.,* forward looking citations, extent of prior

art cited, etc. Patent quality is a highly subjective notion and may be difficult to quantify.

- What patents are being denied by patent offices, by technology, on what grounds; how does this reflect the courts' assessment of invalidity actions?

iii) Patent Transactions

- *Technology Transfer*: What is the impact of patent licensing on the European economy; by whom to whom? To what extent is licensing 'access' over 'technology transfer'?
- *Transfer for Growth*: What is the correlation with market performance of patented products/services, and influence on continuing innovation-enhancing activities of the patentee and the licensee?
- What is the evidence of the reasons for any increased patent assignment/transactions? Strategic? Subcontracting?

5. Rigorous Research Structure and Methodology for Objective Results

In undertaking any analysis of patent activities it is critical that inquiry is not biased by existing priors or assumptions concerning the current performance of the "patent market." Such analysis must be business model and business strategy neutral, and focus on whether patent activities are being undertaken efficiently, and whether the results of patent activities advance dynamic, rather than static, technology development, i.e. competition for innovation. This will provide an objective assessment of "patent market" performance.

The structure and methodology of any studies should therefore have certain criteria and follow accepted standards for scientific research. For example:

1. Surveys must be properly constructed with, for example:

    - Sufficiently representative target and control groups to support statistically meaningful results
    - Properly defined unbiased survey questions must be used
    - Appropriate pre-testing of survey questions should occur to ensure responses that permit objective comparison

2. Reliance on existing data or resources must be evaluated to determine whether they are objective or prepared with bias *e.g.,* based on prejudgments or assumptions of market distortions - and discarded if it was.

4. Existing sources should be relied on where these make declarations of interests and/or their funding in order to establish the level of independence

5. Peer review of research structure and focus, as well as of results, is necessary to ensure objectivity and absence of bias as well as endorsement by the academic community.

C. Principles for Research-based Policy

In any event, and in addition to rigorous research structures and methodologies, it is the results of empirical research that must drive policy and the Commission must avoid the temptation to look for research that validates policy direction. This is particularly important where policies or regulations are aimed at affecting behaviour in the patent market given the importance of the dynamic nature of the patent system and the inventions it underpins.

In particular, it is critical that research help the Commission understand if there is in fact an actual problem, and then to quantify and define the true extent of that problem based on real-world examples and empirical data, and then to assess a proportionate solution.

A good example, is whether injunctive relief for the infringement of a standard essential patent has any pro- or anticompetitive consequences. Despite there being little empirical studies of real-world facts, as to the incidence and effect of injunctive relief sought, granted or enacted in Europe, policy statements (and later competition cases) implied that the very threat of an injunction might cause anticompetitive harm. This is so even though the recent Court of Justice case in Huawei v ZTE establishes that seeking an injunction is entirely legitimate, as a fundamental aspect of the property right and critical to preventing wilful infringement, but in

certain circumstances there may be an antitrust defense raised ensuring an appropriate balance when national courts consider claims for injunctive relief. This example shows that one needs to be cautious about applying theoretical remedies in law to theoretical problems. It also shows that with effective research early on, policy initiatives will be well directed, and even more importantly will determine whether policy initiatives are even necessary in the first instance.

A further example of the importance of a robust and well-structured research effort is to support the European Commission's Communication, *Towards a renewed consensus on the enforcement of Intellectual Property Rights: an EU Action Plan*, which notes:

> "*At the same time,* [measures to dissuade IP infringements] *must be proportionate and minimise any risk that they be abused for anti-competitive practices that could undermine the emergence of new innovative products and business models and unduly restrict fundamental freedoms*."[8]

While abusive litigation is a well-known concept in national law (including vexatious litigation, groundless threats and antitrust abuse under *ITT Promedia NV v Commission* (T111/96)) the terms used relating to the 'proportionate' use of infringement actions is wholly vague, as are reference to limits on private IP enforcement to promote new products and business models and or the freedom to conduct a business. It is therefore important to use clear terms that are well defined, especially given the plethora of emotive terms used in the patent debate (e.g. trolls, privateering stacking, hold-up etc.). Given that, in the on-going policy debate, there has been scrutiny of the nature of the right (e.g. standard essential, computer implemented, quality/invalidity), the scope of enjoyment (e.g. strategic or abusive use, injunctive relief) and the

[8] EUROPEAN COMMISSION, *Towards a Renewed Consensus on the Enforcement of Intellectual Property Rights: An EU Action Plan* (*"An EU Action Plan"*) (2014), page 2, *available at* http://www.eesc.europa.eu/?i=portal.en.int-opinions.33082.

nature of the owner (e.g. non-practicing entity, patent assertion entity, privateer, patent acquisition entity) it is important to have the right parameters for discussion.

6. Conclusion

Effective impact assessment considerations are also needed when reviewing a particular issue or concern related to patent markets. When we consider the influence of academic research, notable on impact assessments, for example, the European Commission has made clear that "*all policy decisions should be based on sound analysis supported by the best data available*" in order to ensure that EC initiatives are undertaken on the basis of transparent, comprehensive and balanced evidence.[9] Given the multiple, pro-competitive, uses of patent system and its long-term dynamic nature (especially given that the commercialisation of patented technologies can occur while a patent is pending or, more likely, halfway through the period of protection) it is imperative not to research issues in isolation, but also seek to understand the intended and unintended impact of policy choices on the whole framework and ecosystem. This is especially true when dealing with issues that are at the fringe issues in a way that affects the well-functioning centre. This is especially true given the strong support of patent and other intellectual property rights is critical for EU's industrial competitiveness globally.[10]

[9] EC Impact Assessment Guidelines, 15 January 2009 (SEC(2009) 92).
[10] *See* EUROPEAN COMMISSION, Communication, *Towards a renewed consensus on the enforcement of Intellectual Property Rights: an EU Action Plan*, COM (2014) 392 (Strasbourg 1.7.2014).