IPRs, Competition and Standard Setting: in Search of a Model to Address Hold-Up
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Introduction

Competition and Intellectual Property (IP) policies are fundamental tools in today’s global economy. On the one hand, competition law aims at protecting rivalry, interpreted as a means to promote the creation of markets responsive to consumer signals. Consumer welfare is hence at the core of competition enforcers’ actions. On the other, the primary goal of Intellectual Property Rights (IPRs) is to encourage intellectual creativity by rewarding investments made in research and development. Properly applied, IP rules define a legal framework which allows companies to profit from their inventions. This in turn encourages competition among firms and enhances dynamic efficiency, to the benefit of consumers. From this perspective, IPRs and competition generate a fruitful symbiosis. However, once an IPR has been granted, the innovator may exert its exclusionary right and exclude rivals from the exploitation of the invention. Here is the well-known tension between IP and competition law. This notwithstanding, from a more general standpoint, competition and IP laws are both necessary for a market to work efficiently and to promote consumer welfare. Their ultimate objectives are thus concordant.

Standard setting represents one of the fields where the interaction between competition law and IPRs clearly comes to light. The collaborative goal of standard setting organisations (SSOs) is to adopt and promote standards that either do not infringe anyone’s rights or, if they do, are developed on the condition that patents are licensed under defined terms. Patents, which confer exclusive rights to the inventors, are important to promote innovative processes in high technology industries. Also standards are essential for developing innovation, as they enhance the interoperability of goods, expand network externalities, and facilitate the dissemination of knowledge. Standards, in particular, play a central role in our global and knowledge-based economy. By co-ordinating technological development and by structuring the way markets develop, they make consumers’ life easier. Standards are based on co-operation between interested parties, thus they are sometimes also referred to as co-operative or committee standards. But how do we define standards? One commentator has defined a standard as “a written document establishing technical specifications for goods, services, or processes, resulting from a consensus, and whose application is voluntary.”

This being premised, the exploitation of relevant IPRs in standard setting contexts may determine several concerns for competition law enforcers. This may happen in the case of patent hold-up, which represents both a private and public problem. In particular, innovators taking part in standard setting may gain market power unlawfully and prejudice the implementation of the standardised technology. It is obvious that any abuse of market power may significantly harm consumer well-being. At the same time, any form of control of such power must preserve the incentives of firms to enter and invest in the market. As a result, it is crucial to strike the optimal balance between IPRs and industry standards. After briefly examining the functioning of SSOs, this paper will shed light on the problem of hold-up and on its causes. It will then try to develop a workable solution in terms of SSOs’ policies.

Background

Above, a co-operative standard has been defined as a written document which is usually needed in order to define the form a good, service or process should take. Beyond the definition and goals of standards, it is legitimate to question how they are chosen and implemented. In this regard, SSOs (both private networks

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8. T.M. Eyegdi and K. Blind, The Dynamics of Standards (Edward Elgar, 2008). Co-operative (or de jure) standards must be distinguished from de facto standards, which emerge as products chosen by the marketplace.
and governmental institutes) have set committees and developed policy rules regulating the procedures which follow in the adoption of a standard. These provisions should function as incentives to participate in the standard setting process, as the participants need to be able to rely on the fairness and transparency of the conduct of their fellow SSO members. Without this assurance, firms will not take part in standardisation, and this outcome would consequently lead to an inefficient result in the development of standardised technologies. These rules are of three different types: search, disclosure, and licensing rules.

Search rules require the members of standard setting bodies to search within their IPRs portfolio for any rights (usually patents) that may potentially cover the standard under examination. Disclosure rules impose on the participants of SSOs to reveal the existence of those rights related to the standard. Finally, licensing rules require that participants, whose IPRs are read on by the proposed standard, license them under specific terms. Licensing provisions usually try to solve the alleged tension between IPRs and competition by requiring members of the SSO either to license their patents for free or, alternatively, to charge licensees under “fair and reasonable” terms (FRAND).

These rules are particularly important as they should neutralise any potential risk of misleading and unfair conduct, and should ensure a fair and transparent standard setting process. More generally, search, disclosure and licensing rules play a crucial role as they function as constraints on the members of the standard setting body. From a policy perspective, they are also important as the choice of the relevant rules and the response given to those by the members directly reflect the tension between the risk of anti-competitive conduct and the incentive to protect IPRs. This notwithstanding, the goals of SSOs may still be compromised by those firms manipulating the whole process in order to obtain an illegitimate economic advantage. A well-known example of such conduct is patent hold-up, which has been scrutinised by both the US and EU jurisprudence.

The Problem

Patent Hold-Up

From a general perspective, hold-up occurs:

“when a gap between economic commitments and subsequent commercial negotiations enables one party to capture part of the fruits of another’s investment, broadly construed. Hold-up can arise, in particular, when one party makes investments specific to a relationship before all the terms and conditions of the relationship are agreed. Hold-up generally leads to economic inefficiency that contracting parties, and courts interpreting contracts, often try to avoid.”

In the standard setting environment, patent hold-up arises when members fail to disclose to standard setting organisations the existence of IPRs they own over a technology that could be part of a specific standard. SSOs usually prefer to standardise technologies not covered by any patents, as this would avoid the need to pay royalties to the owners of IPRs. The latter, therefore, may decide and have decided to withhold information pertaining to relevant IPRs and maintain control over their own property rights. Misleading behaviours may eventually cause manipulation of the standard setting process conferring to the undertaking concerned a dominant position in the market of the standardised patented technology. The conduct may succeed as the industry, after having made relevant investments to develop the proposed technology, may find it unprofitable to switch to an alternative standard (lock-in effect) once the innovator reveals the existence of its rights. Furthermore, there might be cases where there are no available options to the patented standard. The ultimate risk is that the owner of IPRs might be able to gain from licensees supra-competitive royalties for the sale of the selected technology. In other words, the innovator may over-exploit its right, and ask for exorbitant fees for licensing its patents. Licensees may then pass
At the Origin of the Problem: FRAND Terms

The concrete risk of patent hold-up should be carefully appraised and linked directly to the effectiveness of the policy rules of standard setting bodies. Indeed, the analysis of these provisions may lead to the conclusion that hold-up is facilitated (rather than constrained) by those licensing rules widely adopted so far by SSOs, FRAND (or RAND) terms. The divergent interpretations of FRAND given by the literature and by the jurisprudence on standard setting have not clarified when licensing royalties may be deemed excessive or fair. The indefiniteness of the meaning of these conditions usually allows the owners of IPRs to defend any price finally charged as a fair and reasonable rate.

Several authors have dealt with the issue without however reaching a shared position. One author, for instance, argues that courts may define the fair and reasonable prong of FRAND by referring to the treatment of patents of similar scope in related industries. This method, however, has been subject to criticism. A patent of similar scope, indeed, may have been undervalued or overpriced in the course of negotiations or previous judicial assessments, and may thus not represent an optimal benchmark for determining the price of another IPR in a related industry. A second criterion may lead a court to take into consideration the price that would have been voluntarily negotiated by SSOs’ participants before the formal adoption of the standardised technology. This price would differ from the level of royalties that could be negotiated by the interested parties ex post, once the members commit themselves to using the patented technology. This criterion, however, seems to raise serious doubts, mainly due to the difficulties that may arise in interpreting what price level would have been set by SSOs’ members before the adoption of the standardised technology. A third method mentioned for defining FRAND could also lead a court to establish an independent expert assessment of the relevant IPR portfolio’s objective quality and centrality to the standard at issue. However, experience in patent litigation attests that two independent experts may have conflicting views on the value of a specific patent portfolio. This being stated, it is clear that FRAND terms are not an efficient solution mainly because they leave potential implementers of a technology uncertain as to the economic terms on which essential patents will be licensed to them. Such uncertainty, increased by the
divergent economic theories developed by the literature, may lead key market players to avoid SSOs processes, or to hesitate in developing technologies which may still be the subject of litigation among interested parties. These considerations seem to justify the view that a FRAND licensing model implies more questions than it gives answers, and that a change towards stronger rules is highly desirable. 

Stronger policy rules may of course mitigate the hold-up issue, but may also discourage some IPRs owners from participating in the standard setting process. In order to optimise standard setting outcomes, it seems essential to attract participation from as many innovators as possible. The highest the number of participants the lowest the risk of a standardised technology covered by IPRs of non-participating firms. The latter cannot be usually prevented from legitimately enforcing their rights in case of infringements by SSOs’ members. Hence, in view of these considerations, it is crucial to strike an optimal compromise so as to preserve the interests of all the parties concerned, users and innovators.

Suggested Model

Optimal Policy Framework

In order to strike such a crucial balance and eliminate the risks of hold-up, a different option should be implemented: the unilateral disclosure of the maximum royalty level or most restrictive non-pricing terms. According to this framework, cooly mentioned but never developed by the literature, IPRs owners joining SSOs would have to disclose, unilaterally and before the formal adoption of the standard, the maximum price level or the most restrictive non-pricing conditions they would charge for the licensing of relevant rights. In comparison with the FRAND regime, such a model seems to have various advantages.

The next sections will be devoted to understanding why this mechanism seems to represent a better option as a sound licensing framework for standards institutes. In this regard, I will also try to address various questions that may concern the implementation of the model and the enforcement of those clauses (e.g. locked-in and opt-out conditions) directly linked to it. Finally, besides the analysis of the optimal licensing rule, further relevant observations will regard the members’ search and disclosure duties, as these may also play a crucial role in the SSOs’ IPRs policies.

Unilateral Disclosure of the Maximum Licensing Terms

The maximum cap model would consist of a voluntary mechanism for IPRs owners to disclose unilaterally the licensing terms in advance. This regime undoubtedly presents several advantages. Firstly, the ex ante unilateral disclosure of the level of royalties or most restrictive non-pricing conditions would overcome the risks related to the uncertainties of the FRAND model. The latter, it has been said, leaves potential implementers of a technology uncertain as to the economic terms on which IPRs will be licensed. This aspect might finally lead the SSO to design around the patented technology or block the whole process. It may also lead licensees to litigate the meaning of FRAND before a court. That is why implementing FRAND terms has been interpreted as a highly inefficient means to tackle patent hold-up. The adoption of IPRs policies requiring early disclosure of the licensing terms, instead, would eliminate these risks, giving members more certainties about the conditions to be applied. In addition, the SSOs’ committees and working groups would be able to consider not only the technical merits of the proposed solution, but also its specific costs.

Secondly, as far as the members are not involved in any form of negotiations of licensing terms, competition agencies may find it difficult to enforce those rules forbidding price fixing. Indeed, the US Department of Justice has notably argued that with voluntary disclosure of licensing terms firms can make “better informed decisions, which could further lead to faster development, implementation, and adoption of a standard as well as fewer litigated disputes”. Put differently, a system based on the unilateral disclosure of the maximum terms would seldom raise concerns about potential collusive conduct
among IPRs owners. The only plausible risk of collusion could arise in case licensees started to discuss downstream prices of products incorporating the standardised technology. However, this possibility is not peculiar to a particular IPRs regime, but may arise under any SSO policy.

Finally, a further reason may encourage the adoption of the cap. Due to the existence of specific price benchmarks and non-pricing terms, unfair behaviours consisting in the charging of higher fees and application of more restrictive conditions than those specified ex ante would be seldom successful. This is because a maximum cap would be potentially easier to enforce before a civil court or competition authority than an undefined licensing framework (as one based on FRAND/RAND terms). This notwithstanding, there is still debate in the literature on whether the SSOs’ policy rules may be interpreted and legitimately enforced as effective contractual provisions. 38

For the sake of clarity, also the unilateral disclosure model may be in theory criticised, due to alleged obstacles that may affect the standard setting process. 39 The criticism lies on the fact that IPRs owners may be bound too early by the licensing scheme, and would be required to make maximum terms quantifications without fully knowing at times the specific contribution their technology may bring towards innovation and welfare. 40 Nevertheless, this appears to be a minor issue. As I will suggest, indeed, the problem may be solved by setting the optimal time of disclosure of relevant IPRs.

**Unilateral Disclosure and SSOs’ Policies**

Despite all the merits of the unilateral early disclosure model, the majority of SSOs have usually implemented FRAND (or RAND) licensing terms in their IPRs policies. 41 This is probably because they have (wrongly) appraised unilateral early disclosure as a potential disincentive for IPRs holders and industry implementers to take part in SSOs. Only in the very last few years, some organisations have started to consider the adoption of IPRs policy rules promoting disclosure of the maximum cap for licensing relevant rights.

The VME bus International Trade Association (VITA), for instance, has recently adopted a patent policy requiring members to declare the highest royalty rate for all patent claims the member owns or controls, and which may become essential to implement the standard. 42 At the same time, VITA also requires its participants to agree on granting to all members a perpetual patent license—for their patent claims essential to the standard—on fair reasonable and non-discriminatory conditions. 43 Besides VITA, also the Institute of Electrical and Electronics Engineers (IEEE) mentions a maximum royalty cap in its licensing policy. IEEE specifies that IPRs owners may provide on a voluntary basis a “not to exceed” license fee or rate commitment. This notwithstanding, the SSO also states that patent holders may be required to submit a letter of assurance in which they declare to commit either to RAND terms or to royalty free conditions. 44

Two more organisations include policies rules regulating unilateral disclosure. The European Telecommunications Standards Institute (ETSI), besides encouraging its members to commit to FRAND licensing terms, also states that unilateral and voluntary early disclosure of royalties is not prohibited by ETSI directives. 45 The Internet Engineering Task Force (IETF), then, not only promotes RAND or royalty free licensing terms, but also encourages members to include more specific licensing information in their IPRs disclosure. 46

All these models may be considered as hybrid IPRs systems combining FRAND/RAND commitments with unilateral disclosure mechanisms. Therefore, they still undervalue the risks arising from an undefined licensing policy. This notwithstanding, they may also be interpreted as important steps towards the possible oncoming adoption of a maximum cap regime by the whole standard setting environment. Further elements, as better explained below, support this position.

**Maximum Cap in the Views of US and EU Antitrust Enforcers**

The merits of the model under examination seem to have been partly recognised by antitrust agencies and authorities both in the United States and in the European Union. In outlining its position on various SSOs patent policies, the Antitrust Division of the US Department of Justice has already clarified that a maximum royalty cap (coupled with a statement on most restrictive non-royalties terms and other disclosure obligations) may well “reduce the likelihood of unexpected licensing terms that threaten the success of future … standards” and “expand the scope of competition between alternative technological solutions during the standard setting process”. 47 Furthermore, the
Antitrust Division importantly observed that with voluntary disclosure of licensing terms firms can make “better informed decisions, which could further lead to faster development, implementation, and adoption of a standard as well as fewer litigated disputes”.

On the other side of the Atlantic, the EU Commission, in its recent “Guidelines on Horizontal Cooperation Agreements”, has clearly acknowledged the alleged merits of FRAND/RAND commitments. It has then clarified that agreements intended “to jointly fix prices either of downstream products or of substitute IPR or technology will constitute restrictions of competition by object”. Besides these relevant statements, the EU competition enforcer has also taken into due consideration the possibility to implement IPRs policy rules promoting unilateral disclosure. In this context, it has recognised that standard-setting agreements providing for unilateral disclosure of most restrictive licensing terms (including a maximum royalty cap) would not in principle restrict competition within the meaning of TFEU art.101(1). Rather, early disclosure would enable SSOs to take informed decisions on the alternative technologies and to appraise not only the technical merits but also their costs.

These considerations confirm that a maximum cap regime may well prove to be effective in limiting hold-up and guaranteeing a more transparent process. Successful standardisation may incentivise follow-on innovation, to the ultimate benefit of consumers and societal growth. However, neither the EU nor the US antitrust enforcers have ever shed light on other important questions. First, there is still uncertainty on the optimal way to implement the cap, in terms of time and way of disclosure. Secondly, it is not clear which rules, if any, should complement this licensing model.

**Practical Implementation of the Maximum Cap**

Once defined the advantages of the maximum cap regime and highlighted the views expressed by the enforcement authorities, it is necessary to evaluate its practical implementation. Several questions arise on the functioning of the model. The main issues deserving attention concern both the time and way of disclosure.

**Time of Disclosure**

First, in case of a maximum cap framework, SSOs should establish the time for disclosing the royalties and most restrictive non-pricing conditions. Time, indeed, is an inherent decisive feature in every standardisation process. Different options may be taken into consideration. For instance, SSOs could require IPRs owners to disclose their terms as soon as they join the organisations. This option would give SSOs a wide lapse of time to appraise the different levels of rates proposed by innovators. However, very early disclosure may be problematic under other perspectives. At early stages, indeed, standards institutes may not have yet a clear idea of which technology should be developed. In other words, too many alternative projects may be under discussion. Under these circumstances, it would not be reasonable to require the participants to fulfill any disclosure commitments.

Another option would require innovators to disclose their maximum licensing terms just before the formal adoption of the standard. However, also this choice may sound unfeasible, as the SSO members may have already incurred sunk costs during the process for researching on the optimal standard. In case the royalties for the technology promoted by the industry were ultimately deemed excessive, the investments made earlier would be lost. Hence, the need to have a clear understanding of the technologies’ costs well before the final vote on standard.

Given these reasons, IPRs holders should be required to submit their licensing terms not before the first SSO’s resolution on the projects examined. In other words, it is crucial that the standard-setting environment be well oriented towards the development of specific technical proposals. At the same time, the submission should be made well before the final choice on the standard. More importantly, the cap should be submitted together with disclosure of relevant rights. Indeed, it would be unreasonable to reveal licensing terms without disclosing the IPRs they refer to.

Finally, the time of disclosure should bind innovators and work as a “locked-in” clause. This means that, after revealing the existence of conflicting rights and related commercial terms, IPRs holders should be banned from withdrawing from the organisation. Until that moment, it would be still reasonable to let innovators exercise a sort of “opt-out” option. This way, the industry concerned would not risk losing the investments made in developing the proprietary standard due to the unexpected withdrawal...
of the IPRs owner. At the same time, members would have the opportunity to evaluate better the pro and con of being part of the standard-setting process, as well as their will to license potentially conflicting rights. The locked-in and opt-out system, what is more, does not seem to raise competition law concerns. By providing an opt-out option, no one could argue that the IPRs policy merely leads to an automatic compulsory licensing mechanism.35

**Means of Disclosure**

Besides the time of disclosure, it is also imperative to establish how innovators should convey their terms. Some authors, for instance, mention the possibility of submitting licensing plans in a sealed envelope.36 This mechanism may present some advantages, especially in case of late opening of the envelope. In particular, this method may eliminate any potential risk of pressure made by the industry on innovators to lower their rates, and may thus ensure the highest level of transparency. Furthermore, by keeping the licensing terms secret until the final vote it would be possible to reduce the risk of price discussions and avoid potential antitrust enforcement. This notwithstanding, by implementing this option, the standard-setting body would be aware of the licensing costs only at a very late stage. As explained above, industry users and manufacturers may have already invested resources in the development of a specific technology. Therefore, it is clear that this mechanism would not fulfil the SSOs’ need to be informed about licensing rates well in advance. As an alternative, members could be required to submit their terms in a sealed envelope to be disclosed only after a preliminary evaluation of the technical proposals, but still well before the voting stage. This option may be interesting where the organisations wish to attract various technical solutions to a problem, and immediate disclosure of commercial terms might dissuade proponents from coming forward.37

A sound disclosure system may consist of submitting (together with disclosure of essential rights) an irrevocable and unconditional commitment in writing. The irrevocability of the licensing proposal should be interpreted as prohibition to raise the price submitted or ask for more restrictive non-pricing terms. This may lead to avoiding risks of “gamesmanships”, where those patentees supported by the industries may exploit their position and try to extract higher royalties. At the same time, however, it seems reasonable to leave innovators the right to submit subsequent declarations with lower rates and less restrictive conditions. IPRs owners, in other words, should be left free to make their commercial terms more attractive even after the submission of the cap. This system may be indirectly helpful in limiting the risk of royalty stacking, which may occur in case of complementary technologies.38 Leaving innovators the right to lower the fees may indeed reduce the risk of exorbitant cumulative rates.

Any written proposals, then, should be unconditional and applied in a non-discriminatory way to all firms requiring licenses for implementing the standardised technology. This mechanism has been partly considered by few organisations.39 It may only benefit the competitiveness of SSOs processes and may ultimately lead to lower prices for consumers. Besides, by preserving patentees’ right to decide the subject of disclosure and the related terms, it may still work as a safeguard for innovators’ interests in standards.

**Search and Disclosure Commitments**

The described licensing mechanism is at the core of a policy which I believe to be the optimal choice. However, the analysis and implementation of licensing models alone would be of limited help in the pursuit of the best policy system. In order to define properly the boundaries between the members’ duties and powers, it is also crucial to deal with further regulations, covering search and disclosure commitments.

**Duty to Search**

Search rules may theoretically be adopted to require members to search for potentially conflicting rights within their IPRs portfolios.40 However, various objections have been made against the implementation of these provisions. Firstly, the adoption of a duty to search may impose on members a high burden which could deter them from participating in standard-setting.41 This is because undertakings usually send engineers and not patent lawyers to represent them before the organisations. While

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35 See case JV/35.006 ETIS Interim IPR Policy [1995] OJ C76:5. Here, the European Commission rejected the “licensing by default” rule, according to which IPRs owners had to agree ex ante (as a condition to participate) that their rights would be incorporated in the standard when deemed essential. The Commission interpreted such provision as a disincentive to innovate.


37 G. Ohana, M. Hansen, O. Shah, “Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?” (2003) 24 E.C.L.R. 651. The authors mention as example the case of the SDMI Project (a quasi-SSO), which implemented a disclosure system based on sealed envelopes.


39 See VITA Standards Organization—Policies and Procedures (November 30, 2009). Section 10.3 states that “the Declaration is irrevocable. If a subsequent Declaration covering previously disclosed information is submitted, the subsequent Declaration may only supersede the prior Declaration if the subsequent Declaration is less restrictive upon prospective licensees than the former Declaration. Otherwise, the former Declaration continues to apply.” However, this policy raises some doubts, as it still refers to the need to licence under the ambiguous FRAND terms.


engineers have a deeper understanding of the subject matter to be discussed, at the same time they do not have extensive knowledge of their firms’ IPRs portfolios. It may happen, therefore, that engineers are not prepared to fulfil any search requirement. This holds true especially when a member has hundreds of patents which may potentially conflict with the standard. A second factor may have a negative influence on the innovators’ will to search for relevant rights. Standardisation is a process in itinere, where different proposals could be considered before the adoption of the final version of the standard. Therefore, it may be difficult to determine when a firm is required to search for potentially conflicting IPRs. Finally, a further practical reason may lead SSOS to omit a duty to search in their regulations. Imposing a search commitment for potentially conflicting rights may be quite costly to members with large IPRs portfolios.

In brief, it is true that the use of extensive search rules could help to achieve high level of transparency in SSOS processes, to the benefit of the competitive process. At the same time, however, the implementation of search requirements may drastically reduce the number of IPRs holders participating in standard-setting. Reduced participation would probably lead to develop standards of a lower quality. It may further lead to a higher risk of patent litigation. In light of these factors, the effectiveness of these provisions seems more than doubtful. In order to strike the right balance between innovators’ interests and standard-setting aims, search commitments should not be part of SSOS’ regulations. This way, the advantages of the maximum cap regime would be preserved.

Duty to Disclose

The maximum cap framework, as optimal licensing option, must be complemented with an effective disclosure system. Licensing provisions alone, indeed, would not be able to guarantee an efficient standardisation process. Given the alleged risks connected to the implementation of search requirements, it is legitimate to question how disclosure rules should be shaped by SSOS. Disclosure policies have been adopted by the vast majority of SSOS. They usually require participants to reveal the existence of essential IPRs within their actual knowledge, without imposing any specific search activities. They may also encourage the disclosure of other firms’ relevant rights of which a member is aware. Their main function is to reduce the risks of unfair conduct. For the purpose of this article, it seems important to appraise the effectiveness of the various disclosure systems. In particular, it is essential to understand which mechanism may better complement the maximum cap framework. From this perspective, two different issues deserve again careful attention: the time and subject of disclosure.

Time of Disclosure

Firstly, in relation to the time of disclosure, it is clear that innovators should not be required to reveal immediately the existence of relevant IPRs. SSOS, in other words, should refrain from imposing a duty to disclose at the very initial stage. This is because, as evidenced in the previous section, at the beginning of the activities SSOS may have unclear and undefined ideas of the project to be developed. At the same time, however, disclosure should not be made too close to the formal adoption of the standard, as in the meantime industry manufacturers may have undertaken investments towards the development of a specific proposal. The same considerations developed above on the “timely” disclosure of the maximum cap should apply here. Therefore, disclosure of essential IPRs should be made, together with submission of the cap, as soon as the standard-setting body moves its first steps toward the development of a particular project.

Depending on the choice of each organisation, these steps could be formalised through a first resolution or vote in the course of SSOS meetings. This mechanism may preserve both the optimal functioning of standardisation and the need to enable IPRs holders to identify those rights in conflict with the standard. Striking the optimal framework implies the well-known need to balance between innovators’ interests and standard-setting objectives.

Subject of Disclosure

The second issue deserving due attention concerns the subject of disclosure. In this regard, the distinction between disclosure of pending (not yet granted) and of issued IPRs should be taken into due consideration. So far, only few organisations require members to disclose both issued and pending rights. This is because of both practical and policy reasons.

On the one hand, SSOS are aware of the difficulties for firms’ representatives to determine whether an issued patent may potentially be related to a proposed standard. It would be all the more difficult in case of pending patent applications which may often undergo revision. In consideration of the fact that also a proposed standard may change before a final version is approved, firms’ representatives would find themselves in the position “to
hit not one but two moving targets." On the other, it has been contended that requiring firms to disclose pending patent applications in the standard-setting context would unjustifiably compromise firms’ trade secret rights. Disclosure of pending patent applications would indeed sacrifice the protection the applicant enjoys as long as it keeps the information confidential. A rival informed of the applicant’s invention, for instance, may try to obtain patents for improvements of that invention. In other words, disclosure of an application would make competitors aware of the applicant’s competitive strategy, and this could lead to jeopardise the applicant’s ability to obtain coverage from the patent office in a timely manner. It is in light of these arguments that SSOs do not usually require innovators to reveal pending IPRs potentially related to the standard.

However, as Professor Lemley pointed out, disclosure of pending applications would not necessarily compromise the applicants’ trade secret. By revealing only the existence and scope of a patent application, but not the technical know-how of the invention, innovators may still preserve their interests. Indeed, it is doubtful that the substance of an invention could be inferred without access to the related technical know-how. Therefore, the mere disclosure of the existence and scope of pending IPRs may still preserve the applicants’ trade secrets. At the same time, it may grant SSOs sufficient details to make the optimal choice and limit the risks of unfair conduct. That is why disclosure requirements should also include a partial description of pending rights.

Pending IPRs under the Maximum Cap

This choice is all the more reasonable when adopted to complement a maximum cap framework. Under this licensing model, indeed, non-disclosure or description of pending IPRs may risk to compromise the whole standardisation process. Assuming that a standard-setting body implementing the maximum cap did not require any disclosure of pending rights, one legitimate question could be raised. What would happen in case the IPRs applications covering the standard were ultimately granted? Under these circumstances, it could be supposed, SSOs may impose to license the undisclosed IPRs under the same terms submitted with the cap, so as to preserve the effectiveness of the process.

However, this solution does not seem workable, but could be used by innovators to their advantage in order to over-exploit their rights. It may happen, indeed, that a member submits extremely high licensing terms, together with disclosure of the issued IPRs these terms refer to. In this situation, it is very likely that the SSO decides to opt for a different standard, in order to avoid the payment of prohibitive levels of royalties. However, it cannot be excluded that the standard ultimately chosen may cover one of those pending IPRs not disclosed by the innovator and formally subjected to the same restrictive conditions submitted with the cap. Under these circumstances, the SSO member whose (initially pending) rights are in conflict with the standard may legitimately claim for payment of the exorbitant royalties specified in advance. It is in view of this fault that this system cannot be developed. A maximum cap cannot be successfully implemented without shaping a more robust regime also for pending IPRs.

In order to achieve the optimal compromise between SSOs’ goals and innovators’ interests, standards institutes should better implement a cap regime covering only those rights properly disclosed. In other words, the licensing terms submitted by innovators should apply only with respect to those issued and pending rights revealed in due time to the SSOs’ committees. All those IPRs which were not disclosed, either intentionally or unknowingly, should instead fall out of the maximum cap. In particular, SSOs policies should require IPRs owners to waive any claim and license any hidden rights for free. This rule should apply also for those members which had initially denied the existence of any relevant IPRs and had thus omitted to submit a maximum cap. Such a mechanism seems to be necessary in order to preserve the whole standard-setting system. The clear advantage is that it would allow SSOs to develop standards without risk to be hindered by late disclosure of essential rights.

On the other side, it could be argued that imposing a free license for hidden IPRs may conflict with the policy choice to omit search requirements, and may also represent a too draconian measure for innovators. The latter could be in theory discouraged from taking part in standard-setting. However, in my view, the model may still work as an incentive for IPRs holders to participate and reveal the existence of their pending or issued rights related to the standard. By failing to participate and disclose, innovators would lose a concrete opportunity to get rewarded for their investments in innovation. Indeed, with respect to the rights disclosed in due time, the selected innovator may ask for the maximum price or most restrictive non-price conditions proposed ex ante. Therefore, the very opportunity to apply the desired licensing terms should balance the negative effects of a fee waiver for any hidden rights. In addition, the choice to avoid any formal and binding search requirement may be well-accepted by SSOs’ members and should be interpreted as part of the delicate balance between innovators’ interests and standard-setting goals. It is clear,
however, that the pursuit of this balance could also warrant a rule requiring members to return any collected fees in case of invalid IPRs (so-called over-disclosure).

**Competition Enforcement and the Maximum Cap**

Once defined the structure of the optimal policy framework and highlighted its advantages, it is legitimate to question how such a model may be enforced. Indeed, the SSOs policy rules are not laws and are not enforceable by themselves. They rather need to be enforced on the basis of legal principles. In particular, one could question how the breach of the maximum cap may be treated under US and EU competition laws. Both US and EU competition enforcers have often scrutinised unlawful practices in standard-setting. Thus, it may be argued that the enforcement of competition rules could be well interpreted as an ex post potential remedy to any unfair or misleading conduct. This section is devoted to understanding better how competition regulations may help in preserving the activities of SSOSs implementing a maximum cap regime.

**Breach of the Maximum Cap**

At first sight, the breach of the maximum cap may lead to consequences similar to those established by some courts with respect to the breach of FRAND/RAND terms. Therefore, in case there is evidence that the SSO would have not adopted the patented technology but would have rather opted for alternatives had it known about the intention to breach the cap, the behaviour may be prohibited under both EU and US competition laws. On the one hand, US enforcers may only interpret the conduct as exclusionary under the Sherman Act s.2. On the other, the EU counterparts could fine the breach of the maximum cap both as exclusionary and exploitative conduct. In case, instead, no exclusionary effect is found as it is proved that the SSO would have chosen the selected technology under all circumstances, no concern would arise under the Sherman Act. The latter, indeed, does not prohibit exploitative practices. In the European Union, however, the conduct might still be charged as abusive exploitation under TFEU art.102(b). The breach of the cap, then, could clearly lead to limit the production of the selected technology, as the industry concerned would seldom agree on terms higher than those established ex ante. The ultimate effect would be detrimental to consumers and societal growth.

In the US, instead, the absence of exploitative abuses in the Sherman Act reduces the scope of the antitrust enforcers’ intervention. In relation to high pricing conduct, US courts’ decisions have held that a natural monopolist that acquired and maintained its monopoly “without excluding competitors by improper means is not guilty of ‘monopolizing’ in violation of the Sherman Act … and can therefore charge any price that it wants … for the antitrust laws are not a price-control statute ...”.

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73 On the issue of over-disclosure of IPRs, see for instance Nokia v Interdigital Technology [2007] EWHC 3077; (2008) 31 I.P.D. 31012.
75 For example, Rambus v F.T.C. 522 F.3d 456 (C. App. D.C. Circuit, 2008); Broadcom v Qualcomm, 501 F.3d 297 (C. App. 3rd Circuit, 2007).
76 J.H. Park, Patents and Industry Standards (Cheltenham: Edward Elgar, 2010), p.51. In considering antitrust liability in the context of formal (de jure) standardisation, Park identifies the attempted monopolisation claim as the most likely tool under the US Sherman Act s.2.
This notwithstanding, the breach of a maximum cap in the absence of exclusionary effects may be potentially caught by the Federal Trade Commission Act s.5. This provision, which prevents unfair methods of competition and deceptive practices, was enforced in Negotiated Data Solutions. In that case, the licensor had first purchased certain patents from a SSO member. It had then tried to charge fees higher than those previously agreed by the initial owner of those patents. This means that, leaving aside the enforceability of civil law remedies, s.5 may represent an important means to support the FTC’s monitoring over unfair conduct.

To sum up, anti-trust regulations may represent an important tool—besides civil law remedies—to constrain ex post the negative effects of unfair conduct in standard-setting environments. Therefore, it seems that an effective competition framework based on the enforcement of a consumer welfare test may well come abreast of a robust IPRs policy in the effort to preserve SSOs processes. This being stated, a crucial concept should be remarked. A maximum cap, as the optimal compromise between innovators’ interests and standard-setting goals, would undoubtedly have more chances to be fulfilled than a FRAND/RAND commitment may ever have. As a logical consequence, it would also reduce the risk of intervention by courts or authorities enforcing antitrust regulations.

Conclusion

The described policy model, based on a maximum licensing cap and a robust disclosure policy, may well be considered as the optimal means to limit the risks of hold-up and preserve a fair competitive process. This would hold true from both an ex ante and ex post (i.e. enforcement) perspectives. On the one hand, such a framework seems to address better the need to strike ex ante a clear balance between innovators’ interest and standard-setting objectives. On the other, even in the unlikely case of breach of these rules, competition enforcers may still intervene as an effective ex post remedy. Indeed, in comparison to the FRAND/RAND model, a maximum cap regime would be easier to enforce, given the existence of specific price benchmarks. By ensuring the optimal functioning of standardisation environments, consumer and societal welfare would be preserved. The latter, it is well-known, should be interpreted as the true goals of any competition policy.

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80 Blue Cross and Blue Shield United of Wisconsin v Marshfield Clinic, 65 F.3d 1406 (C. App. 7th Circuit, 1995) at 1413, citing National Reporting v Alderson Reporting, 763 F.2d 1020 (C. App. 8th Circuit, 1985); US v Aluminum Co of America, 148 F.2d 416 (C. App. 2nd Circuit, 1945), at 430; Ball Memorial Hospital v Mutual Hospital, 784 F.2d 1325 (C. App. 7th Circuit, 1986), at 1339; Berkey Photo v Eastman Kodak, 603 F.2d 296 (C. App. 2nd Circuit, 1979).
84 See, however, J.H. Park, Patents and Industry Standards (Cheltenham: Edward Elgar, 2010), p.51. The author finally argues that “antitrust laws can be used in limited circumstances in relation to standards incorporating patents”.