

The SEPs Debate and Surrounding Issues: Part -IV

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The domain of SEPs is highly engrossed with multitude of issues, as it is generally understood. Most of the issues come from patent holders' anti-competitive behavior, which includes unilateral rejection to license, patent ambushes, patent hold-ups, strategic injunctive relief, royalty staking, and breach of F/RAND Commitments, both inside and outside of SSOs (national & international). One of the key tenets of standards is that they be universally recognized and applied once they have been approved. Suppliers view standards as a way to meet consumer needs while also offering a chance to pave the way for innovation through compatibility, complementarily and interoperability. Standards thus have an impact on both innovation and the dissemination of technology since they create a technological infrastructure with a significant public benefit component. The previous article provided the readers with a comprehensive introduction to SEPs and their implications in the modern intellectual property landscape. This issue of this yearlong series will take the baton further to dwell on the issues circumventing around this domain of SEPs.

Keywords: SEP, SSO, F/RAND, ASI, BIS, ETSI

Due to the public good character that standards have by their very nature, once approved, standards are effectively used as a free rider phenomena. In other words, having access to technology at the lowest feasible price is of more relevance to those that apply standards in order to get benefits in production. IPRs & Standards serve distinct objectives: IPR are designed for personal, exclusive use, whereas Standards are meant for public, communal usage, as clearly stated by K. Meinhold of the Special Committee of the European Telecommunications Standards Institute (ETSI) IPR.

Standards can be deliberately employed to minimise global commerce and consumer welfare since they are established at international, national and regional levels but applied globally.¹ Accordingly, patent rights are geographical awards controlled by international common binding ethos. They are considered as catalysts for technological innovation and, when included into standards, may complicate their usage and application.² Patent rights have become more important in recent years, as incentives to economically exploit the idea have increased rapidly along with activities related to collaborative standard creation. While it is true that the patents-innovation framework is increasingly

being questioned, the increased rate of even patent rights in technology goods and processes can be cited as the primary cause of aggravated challenges relating to patent disclosure and licensing concerns in commercialization/implementation of standardized technologies.

While there are some situations that some businesses may be able to settle peacefully through arbitration, other businesses are ready to proceed with judicial settlement of the issue. Scholars mostly differ on the precise legal implications and contractual character of a commitment to license under F/RAND terms, as well as whether third parties can profit from such a commitment. In such a case, a few key issues must be resolved. F/RAND contracts: What are they? Do they suggest an offer to license or are they legally binding contracts? What part does contract law play in dealing with F/RAND-related problems?³ What techniques will courts often employ to determine F/RAND from a contractual standpoint? And lastly, what are the F/RAND license agreement's legal repercussions?

A few cases of SEP-related litigation demonstrate that injunctions—both temporary and permanent—are a formidable tool at the disposal of SEP owners for excluding goods out of various marketplaces throughout the world. If injunctions are frequently imposed in cases of SEP infringement, it indicates

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that there is less customer options in terms of the availability of compatible and competing technological items. Liability rules have occasionally been invoked by the courts to interfere with patent owner's rights to bar and set royalties. Though, there is no uniform judicial practice regarding how F/RAND contracts affect injunctive relief in various countries (whether F/RAND means a waiving off for injunctive relief).

Although some nations have launched antitrust inquiries into the matter of SEP-related abuses, it is still not apparent whether competition law could be properly applied to prevent patent owners from assessing royalties which they believe to be originating out of F/RAND.³ The counterargument put up by patent owners is that the SSOs picking an alternative is uncommon since there are frequently no other alternatives or their technology is selected as the best option out of multiple options. The argument makes the assumption that market dominance already exists in circumstances where there are no substitutes and that adding substitutes to standards will not give patent owners more market power. If substitutes were to exist, "basic economics sustains that firms with a niche commodity or intellectual property will be in a better position than those with goods or IP for which alternatives exist," the argument reads. However, some analysts believe that market power provided by patents is "considerably larger" now that standards have been established, particularly in markets based on networks, where patent holders may assure incompatibility and potentially shift the market in favor of a single network.⁴

Discussing how competition law protects patent holders against hold-ups and royalty stacking will be crucial.⁵ A comparative analysis of the issue's examination by several competition authorities would be helpful, this is true even if different jurisdictions have adopted different legal strategies for the implementation of competition law.⁵ According to the laws passed by several nations in favour of domestic standards, in order to improve their strategic and economic prosperity, nations (and their businesses) are not prepared to pay for what they perceive to be "unreasonable royalties" to international patent owners. The Indian competition commission in a complaint filed by the Indian company Micromax alleging that the Swedish telecom tycoon Ericsson's is abusing its dominant position and overcharging the Micromax in connection with multiple SEPs found

the complaint actionable in 2016. It will be fascinating to look at how developing nations have viewed the issues of SEPs in this perspective. China has vociferously campaigned for finding global answers while participating actively in a number of international forums. India has just recently entered this discussion, but recent legal disputes concerning SEPs there have brought up some important questions and solutions about the meaning of F/RAND, injunctive remedies, and competition law. Comparative research on how China and India have handled the difficulties brought on by SEPs would be interesting. The fact that developing nations are interested in finding a worldwide solution within the trade-based framework of the WTO (World Trade Organization) illustrates the global dimension of the SEPs problem. It also demonstrates the several layers of economic and strategic interests at play in trade of SEPs along with the potential need for a consensus resolution to reconcile divergent legal theories in comparable jurisdictions. Some nations worry that WTO's support of present standard-setting ecosystem, which is dominated by the private property interests, needs to be changed. Both the TRIPS and TBT (technical Barriers to Trade) accords are concerned with the intersection between SEP regulation and global trade regulation. Does TBT agreement offer long term answers for a regulation framework which harmonizes the variety of solutions including SEPs, even while it stipulates a code of behaviour for the SSO?

Does the TRIPS framework's legal structure give WTO members enough room to respond to SEPs crisis by enabling supple liability norms?³ Do they pose any standardizing difficulties? In order to prevent global market distortion, the answers to all of such questions highlight the requirement and necessity for worldwide economic law to act at some level and limit the anti-competitive and the exclusionary effects caused by SEPs across different countries. By fostering a more secure and predictable international business climate for both developed and developing nations, it will promote deeper economic integration.¹ Having discussed the span of activities this domain of SEP entails in its functioning, now let's take our discussion further to take an in depth analysis of specific issues that have spanned across borders owing their origin in lack of well guided framework for SEPs Procedural Jurisprudence.

Journey from Ensuring Interoperability to Inculcating Multi Jurisdiction Issues

Patents which are deemed to be "standard-essential" are crucial and divisive because they are purportedly "essential to any standard." There is no way to design around a patent that is actually essential, unlike most other patents, and yet adhere to the standard. SSOs gradually have restricted the usage of patents which apply to the standards they approve. Though some SSOs demand licensing which is devoid of any royalty for patents that protect a standard, others only demand that the existence of such patents be disclosed. Most frequently, they allow the development of standards that include SEPs but impose obligations on patent holders to disclose patents which might become essential and grant licenses on the F/RAND terms to anybody who adopts standards for their SEPs.⁶ The majority of SSOs don't examine the essentiality or substance of stated SEPs. SEPs are potentially quite strong, even with those restrictions. Owning rights to be paid a license whenever any such standard is appropriated—even at a F/RAND price—can be highly valuable since effective standards are appropriated by the entire industry.

An injunction against any technology that everyone must adopt can be particularly effective if patentee refuses to agree to (or rather tries to dodge) a F/RAND agreement. Many academicians have expressed concern about the possibility of a patent holdup as a result.⁷ The fact that goods can combine several standards and that multiple SEPs cover the majority of standards makes licensing of SEPs more difficult. Hundreds or even thousands of SEPs have been encompassed for technologies like WiFi and 3G wireless communications because of their complexity. If each of those patents is actually required to make the product, there exists a possibility of Double Marginalisation aka "Royalty Stacking" if each patent holder seeks an excessive amount of the sales proceeds.

The F/RAND commitment may conceivably provide a solution to that issue, only if the F/RAND royalty is actually reasonable and is based on combined worth of all pertinent SEPs rather than additional contribution of any single SEP owner acknowledged in the isolation. Given the importance of SEPs, it is not surprising that they are far more likely than other types of patents to be upheld and get enforced in court. It is often said by many scholars

that SEPs had a litigation likelihood that is more than five times that of comparable non-SEPs. Almost every aspect of the F/RAND commitments has proven to be contentious when those patents are enforced.

A number of issues have been debated by litigants and academicians, that whether a F/RAND obligation obstructs a patentee from obtaining a relief of injunction, whether the fact that a patent is standard-essential should disqualify an injunction even in the absence of a F/RAND commitment, whether a patentee making a F/RAND commitment must make it available to all or to the just willful licensees, who qualifies as a willful licensee, whether the F/RAND commitment is in the nature of enforceable contract, who determines what royalty is F/RAND, and what a F/RAND royalty rate is. These battles have not only resulted in some of the longest court rulings in history, but remarkable attempts are made to fund such studies by firms like Qualcomm, and even by institutes and universities committed to influence the outcomes of these disputes.⁶

Despite all of the litigation and academic research, we still know little about SEP enforcement. We have access to the evidence about how many of the patents are deemed essential to standards at the various SSOs, and we have solid evidence about which organizations really implement what kinds of rules. Recently, Jorge Contreras' latest research has focused on one of the inquiries we pose here: What occurs when SEPs are enforced in the court by NPEs? Contreras started the process of analysing the results of the SEP case.⁶ His study is significant and includes conclusions that are comparable to ours, but it is missing numerous of the details that let us tell a more comprehensive tale. Data on validity versus infringement and a matched group of non-SEPs for comparison are among them.⁶

However, the "Standard" narrative of an SEP infringement may raise some concerns to a close observer. Firstly, the ultimate version of the standard that the SSOs adopts may not infringe upon patents that have been declared to the SSO before that time, thus the plaintiff shall still establish its case of infringement. Secondly, important standards may have a wide range of diverse elements and characteristics. A specific use of the standard may not violate any patents which are "essential" to optional features. Despite the fact that this explains how patents which are deemed essential but not infringed upon might be found, we can still anticipate that judicious choice of patents to claim in court will

reduce the frequency of such cases. However, patent litigation involves other issues besides infringement. Wide-ranging patent comes at a price.⁸ Because it is more difficult to fully define and teach the entire breadth of the invention, or because it is more likely to infringe on previous art, a patent that is so wide that it cannot be built around may be more likely to be found invalid, and hence it is a general assumption that SEPs may have a higher likelihood of being declared invalid in court than non-SEPs. Because it believes that the SEPs are far more potent and are more likely to be violated as they are wider than non-SEPs, our confidence in that hypothesis was lower. That may not be the case. It may be feasible to submit narrow applications which are nonetheless likely to be essential as well as valid, in particular if businesses can predict the course that a standard will follow because they are involved in its creation.⁸ It's also possible that the patent was legitimate despite its significance and scope because it was genuinely ground-breaking. The current deadlock in the resolution of SEP disputes can be ascribed to the lack of theoretical clarity surrounding several important economic issues addressing the implications of the use of market dominance in the backdrop of SEP licensing and their enforcement.

High-flying theories and jargons (for instance the patent holdup, reverse holdup/holdout, and collective holdout) which the courts, competition authorities, and government agencies/regulators have frequently accepted at face value without critically examining their underlying theoretical accuracy or evidence have heavily influenced the litigation surrounding SEPs in India and around the world. These arguments have been used to claim that there is still a structural issue with the licensing and enforcement of SEPs because it permits patent owning companies to profit from "ex-post" opportunism once the standard has been established (i.e. by enforcing SEPs for illegitimate monopolistic power and obtaining exorbitant royalties).

In other words, patents that are "not important" *ex ante* are able to wield market power after standardization, or *ex post*, beyond their "inherent" economic worth. To make analytical and public policy decisions underpinning the legal systems in many jurisdictions, including India, these ideas have frequently been acknowledged as accepted wisdom. The notions of "Patent Holdup" (hereinafter referred to as PH) and "Royalty-Stacking" (hereinafter referred

to as RS) are examined more closely and critically in this discourse in light of the broad evidence that has been offered in the context of theoretical and economic arguments on SEPs. Some theories contend that the existing system of SEPs licensing,⁹ which is based on "disclosure" of all "essential" patents to any technology standard and their availability on "F/RAND" terms and conditions — a commitment made at SDOs in the form of a "private ordering" mechanism — is largely ineffective, underscoring the need for an effective "public ordering" approach as general public policy that should guide SEPs dispute resolution. Essentially, private ordering of SEPs through the property rights framework in the shadow of F/RAND licensing (i.e. contracts), as per the proponents of the PH and RS theories, impedes the adoption of standards at competitive levels.¹⁰

Thus, a variety of SEPs licensing strategies have come under scrutiny as being indicative of both structural and strategic issues with F/RAND licensing in the context of private ordering. Thus, it is typically asserted that the F/RAND commitment, being vague and weak, must be interpreted to have particular legal implications in order to control the "monopoly power" surrounding SEPs.

Issues Surrounding SEP Landscape at a Glance

Patent Holdup

A patent gets "locked-in" as soon as it is adopted as standard and receives widespread economical acknowledgment. A manufacturer must utilize the same, or otherwise his commodity would become incompatible with those of other businesses and therefore, will become unmarketable. In such scenario, the SEP holder acquires more negotiating leverage since the licensee lacks access to competing technologies. When an SEP holder tries to enforce unreasonably exorbitant royalty rates on the basis of a locked-in patent, situation known as 'Patent Holdup' occurs. The SEP holder can take advantage of the locked in position to receive much larger royalties than what it would have before the invention was integrated into a standard, unless bound by an SSO to abide by F/RAND licensing. However, even after being committed to F/RAND such a circumstance arises by virtue of the vague nature of F/RAND.⁴

In most layman terms, when an SEP owner tries to enforce arbitrary rates using a locked-in patent, this is known as patent holdup. The SEP owner can abuse the locked in position to get potentially incremental

royalties unless they are repressed by SSO to comply with the F/RAND terms agreements. Additionally, it is seen that in these circumstances, the licensee is bound by the licensor by a nondisclosure agreement to prevent licensees from learning about the royalty rates imposed on earlier licenses. This frequently creates a hurdle in parties' negotiations and raises questions regarding competition law in F/RAND lawsuits. The main public policy concern in intellectual property law has evolved into the issue of patent owners' delays. The patent hold-up appears to have garnered the greatest attention recently among the several objections against patents. It's partly because the uniformity of inventions covered by patent protection has been eroded. The patent system must cope with inventions that are composed of several unique components developed by various businesses and industries.

Every patent holder raises the price of "his" component by imposing an expanse on other patent owner, which results in a higher than the efficient patent royalty being charged, and this, according to Boldrin and Levine, poses a huge hold-up difficulty for future inventions. With numerous selection and/or peer-review conducted by the organizing licenses, which the inventive business will obtain. Because of this, creative businesses spend less time and money developing new products. Boldrin and Levine claim that this is the existing patent system's main dynamic general equilibrium flaw. When numerous patents are read on a single product and royalty stacking is present, the problem of patent hold-up gets worse.¹¹ In scenarios where limitation on royalty rate paid by each of the patent holder originates from decrease in production which occurs from higher running royalties, Lemley and Shapiro investigated the consequences of royalty stacking.

CCI in the cases of Micromax and Intex¹² also noted that "hold-up can jeopardize the validity of standard-setting processes and the competing process of selecting among technologies. The hefty expenses associated with such patents are ultimately passed through to the end users. Additionally, in certain situations, the licensee often gets bind by the licensor through a non-disclosure or confidentiality agreement with regard to license's conditions, preventing later licensees from learning about the royalty rates that is imposed on those earlier licenses. This causes a barrier to the parties' ability to conduct licensing discussions, which raises

serious concerns about competitiveness in F/RAND lawsuits.

Hold-up occurs when a standard implementer learns about a SEP only after investing in a company; in this scenario, the rights holder demands extravagant royalties proportional to the contribution in the technology, and implementer is forced to comply. The implementer is compelled to comply with such aforementioned demands because it has already made substantial sunk costs in the venture based on standard. If the holder of rights can compel compliance with standard by obtaining an injunction based on patent infringement, then the implementer runs risk of being unable to capitalise on investment which is already made (Farrell 2007, Lemley and Shapiro 2007). For instance, if an implementer invested 10 billion yen to earn 12 billion yen in income, total royalties would have been capped at one billion yen or less (level of ex-ante profit) if Licensing discussions had taken place before the investment. Negotiations conducted after investment would only ensure that total royalties would not surpass 11 billion yen (the size of revenue), which might exceed the company's profit, and would expose the implementer to the danger of not being able to recoup its investment. SSOs are well knowledgeable of aforesaid risks of SEPs, therefore they only acknowledge technology of firms with SEPs that have made bond to licensing them on F/RAND terms, as ingredient of standard technology.¹³ However, the cumulative royalty rates of the SEPs are seldom known before actual Licensing negotiations, until unless the price for full range spectrum of SEPs is predetermined either by the patent pool or by necessity of a standard organisation of royalty free licensing.¹³ As a result, if courts unqualifiedly agree to grant a relief of injunction at the behest of the patent owner, SEP holders would be able to seek high royalties from its implementers. As a result, the prerequisite legal need for a hold-up is an injunction. On the other side, the concern of "reverse hold-up," which is described below, arises if there is no chance of an injunction.

Reverse Hold-Up or Hold-Out

In a reverse hold-up, the implementer declines to participate into a License discussion, preventing the rights holder from receiving royalties. Due to judicial constraints on injunctions, several experts note that the issue of reverse hold-up by implementers has

recently grown to be much more problematic than hold-up by SEP holders (Epstein and Noroozi 2017).¹⁴ Let's look at the scenario where the SEP owner is a business that specialises in R&D in order to explain this issue of reverse hold-up. Under the Standard licensing negotiations, contrary to a typical Licensing talks, This company's investments on R&D had already become sunk costs during the time of License discussions. This is due to the fact that talks are often held after an invention is created and frequently after it is made public, at which point its patent right has already been established. Furthermore, the implementer is free to utilise the SEP whenever it wants because the rights holder agreed to License it on F/RAND conditions.¹⁵ Under these conditions, the implementer has no incentive to swiftly wrap up the License discussions if the rights holder does not threaten an injunction. By dragging out the negotiations, the implementer can even increase its profit since it will be able to fortify its position and put more financial pressure on rights holder, whose main source of income is from Licensing fees.

Additionally, the implementer won't be responsible for paying the License payments if the patent is declared invalid. However, since the investments on R&D are already sunk costs and that there is none other way to ensure a return on these investments than to enter into a Licensing agreement, the rights holder could not withdraw the rights of the said enforcer to use technology only on the grounds of failed negotiations.¹⁵ Consequently, owner of the rights could be compelled to reduce the Licensing costs.¹⁵ In such cases, the rights holder's royalty payment may drop significantly, making it impossible for the patentee to get a sufficient return on its investment. A penal provision on such implementers who decline to participate in License discussions in the good faith would be required to resolve these difficulties. Allowing the SEP owner to file for an injunction against such businesses is one remedy. Injunctions are therefore allowed against reluctant licensees even while they were not allowed against the willing licensees, according to a number of court rulings.

Ex-ante Negotiations and Incentives

Because royalties which was agreed to in ex-post discussions are subject to changes in negotiating strength, the difficulties of hold-up along with the reverse hold-up (or hold-out) arise. Adopting ex-ante negotiating framework is one way to stop this. In an

ex-ante discussion, royalties are predetermined in advance, before the sunk capital, as suitable incentives for innovative investments. Ex-ante negotiations are frequently used in the US to represent fictitious discussions between a willing licensee and a willing licensor to decide the precise quantum of damages.¹³ We can validate that Licensing fee will produce the proper incentives for implementer's investment if we assume that implementer will negotiate the License fee prior to making its investment (hypothetical ex-ante discussions).

The royalties would be established within range of anticipated profits that is to be made from the use of standard, assuming that implementer had engaged in License talks prior to implementing its investments. If the bigger sum is offered, the implementer may decide not to execute the investment. Therefore, if it were a clearly defined rule that the royalty arising from such ex-ante negotiations satisfying fair License terms,¹⁶ it would provide an appropriate consideration for the implementer to invest in using standards and resolve the issue of hold-up. Some people think that the ex-ante negotiations should be implemented, presuming that they would have occurred while the standard's alternatives already existed, or even before the standard had been decided.¹⁶ This is due to the fact that License discussions held after the standard had been widely adopted would overestimate the contribution of the aforesaid standard technology if the worth of the standard were decided by network externality through its widespread usage (and not by standard technology per se).¹⁶ Furthermore, Licensing discussions held after the agreed-upon standard had been established would not take into account technological alternatives' competitiveness. In light of this, the Fair Trade Commission (2011) supports the use of the hypothetical negotiating framework and suggests that "Courts should set a royalty cap equal to the added value of patented technology beyond alternatives on the market at the time the standard was selected."¹³

It will be crucial for the negotiation rule to ensure a suitable consideration for the R&D of the standard technology if the ex-ante negotiation were to be set early, before there is competition for the standard. When both envisaged technologies are equivalently superior to the existing standard, the worth of both the adopted and the unadopted technologies would be zero, minimizing the ex-ante incentive for R&D.¹³ If the incremental value, which is the value of the

adopted proposed technology minus the value of the proposed technology that is next in line, is used as the reasonable royalty value of the embraced standard technology. Additionally, if the new standard technology were a substantial contributor to the scope of network externality, it would be imperative to reflect the value of latest tech in the royalty to offer appropriate incentives for developing superior standard technology.

If many businesses create identical innovations practically simultaneously, the first to file for a patent under the current system will be granted the exclusive right. A second patent is granted for that piece in relation to the second firm if its input to additional noteworthy advancement relative to the first invention is acknowledged. No patent is granted if no progress is acknowledged. In other words, the patent framework offers an ex-ante consideration for R&D since exclusive rights are granted to one party, even if identical ideas are developed. Even though the patent race under these incentives isn't always the optimum system (Scotchmer 2006), it had been a significant factor in encouraging R&D. In case of standards, the fundamental idea of patent system, which encourages technological advancement, is compatible with establishing royalties for any new standard which is in line with its added technological value compared to the old standard. However, it appears to go against the fundamental tenet of the patent system to pay royalties based on the value differential vis-à-vis the most superior suggestions for the novel standard and the next superior proposal, undercutting the ex-ante incentive for R&D. Therefore, we would also need to consider the consideration for R&D of standard technology if we were to acknowledge the framework which sets ex-ante discussion before the time where standard is set. In other words, an innovation based on standard necessitates complementary investments from both the companies creating standard technology and companies utilizing the standards. As a result, royalties must be decided via ex-ante discussions that do not include essence of hold-ups while still creating suitable ex-ante considerations for assisting the R&D of a new standard.

Royalty Base

The appropriate choice of the royalty base determines whether a royalty amount is justified or not. Instead of imposing royalty rate on only the part that contains the infringing patent, the SEP holders frequently charge a royalty amount based on net sale

amount of the finished commodity. This implies that executer will be required to pay royalties on the ingredients that do not inculcates the SEP, even if the SEP is utilised in just one ingredient of a multi-component commodity.¹⁵ In these situations, the entire F/RAND concept is undermined since there is a significant chance that the patent holder will be unfairly reimbursed for non-infringing portions of the product when a royalty is calculated across the board. The US Court of Appeals for the Federal Circuit ruled in *Virnetx Inc. v Cisco Systems*¹⁷ that royalty base must be linked closely to claimed innovation rather than on the overall value of product. Linked to the issue of particular F/RAND amount and how they are to be appropriated is the ultimate royalty base on to which such rates apply.¹⁸ This can be broken down into 3 sub-issues:

- (i) whether an end user product or one of its components should serve as the basis for the royalty;
- (ii) if the latter, how, if at all, the rates should differ from one type of end customer commodity to the next; and
- (iii) if the former, whether the prices for one type of end customer commodity can vary based on the value of the latter (i.e. be percentage based).¹⁸

End User commodity vis-à-vis Components

Many organizations subtly convey their positions on this first sub-issue by either stating that their published per-unit pricing applies to handset devices, as Inter Digital does, or by conveying a dollar-based royalty that may be challenging for a wireless component to bear without raising its price. Others, though, take it a step further by outright supporting a just reward for their inventions.¹⁵ For instance, the F/RAND Linked statements of Inter Digital, Qualcomm & Ericsson. Inter Digital also Surface-level criticism of licensing at various levels as being "inefficient, increasing monitoring expenses, causing uncertainty for both licensees and licensors, and boosting costs for both parties" and "component pricing as the acceptable foundation for F/RAND amount".

Royalty Stacking

When royalties are layered on top of one another, the amount of the aggregate royalty increases, this concept is known as 'Royalty Stacking'. This occurs when several SEP holders superpose identical royalties on various parts of the same multi-

component commodity, causing royalties to surpass cost of the final product. This issue was brought up by CCI in instances of Micromax and Intex¹⁹, where the High Court of Delhi had mandated that Micromax pay royalties to Ericsson based on phone's net retail price rather than the value of the allegedly infringing chipset technology. The GSM chip would cost Rs. 1.25 to use in a phone that costs Rs. 100, but would cost Rs. 12.50 to use in a phone that costs Rs. 1000, according to CCI. Therefore, the rise in the patent holder's royalty is without any benefit to the licensed party's goods. A smartphone's higher price is a result of additional software, technological features, and apps that the maker or licensee gave and for which he was required to pay royalties or other fees to other patent owners or patent inventors. It seems unjust to charge two separate licensing fees for each unit phone for the same technology, and it also represents exorbitant price in comparison to high-end phones.

Overlapping royalties is referred to as royalty stacking, and it ultimately raises the royalty rate. It often occurs when several SEP owners impose comparable royalties on various ingredients of a same multi-component commodity. In case of Micromax and Inte, brought before the High Court of Delhi, Micromax was ordered to pay royalty fees to Ericsson on basis of the phone's net sale price rather than the technology's worth. According to the standard essential patent (SEP) royalty stacking theory, each SEP owner will overcharge royalties to downstream businesses. Royalty stacking hinders innovation, results in a Cournot-complement dilemma, and boosts consumer costs.

With an equilibrium royalty stacking framework with entry, we also observe that as the number of SEP holders rises and becomes significant, (i) downstream sales decline; (ii) downstream concentration rises; (iii) each SEP holder sets her prices more conservatively and sees her profit margin decline; (iv) the equilibrium cumulative royalty rate rises almost dollar for dollar if manufacturing unit costs decrease by one dollar or if quality improvements increase customers' willingness to pay by one dollar; and (v) downstream concentration increases.²⁰

Availability of Injunctive Relief

When a standard-essential patent is covered by a F/RAND License agreement, pursuing or threatening to pursue injunctive remedy for patent infringement becomes a controversial matter.²⁰ A patent holder often guarantees its willingness to make its SEPs

accessible on F/RAND Licensing terms and conditions to anybody implementing the standard when it makes such a promise to an SSO in accordance with its IPR policy. F/RAND commitments guarantee that reasonable Licenses to the technology covered by SEPs will be made accessible to standards implementers, who must inescapably utilise that technology.²⁰ The issue therefore becomes whether an SEP owner who has expressed a desire to License should be allowed to request exclusion orders or injunction orders against implementers.

When an SEP holder uses an action of injunction to enforce its royalty rates, it turns out to be a potential weapon as a SEP implementer can argue that accepting an excessive unreasonable fee on royalty will be less hazardous as compared to stopping an action of infringement. The use of injunctive relief remedies against the will full licensees is a clear violation of the F/RAND pledge because F/RAND royalty rates are sufficient compensation to SEP on their own. Such behavior is also seen as abuse of dominant position and is thus prohibited under competition laws. As a result, a remedy for injunction must only be requested when licensee refuses to pay F/RAND royalty that was set by a court or when monetary compensation is insufficient as a remedy. A party must sustain irrevocable harm if said injunction relief is not granted; this is guiding concept underpinning its granting. In India, the law governing injunctions is founded on Principles concerning equity. The SEP holder's remedy in the aforementioned situation is a royalty. Only the quantity of the same has to be assessed to see if it is sufficient or not. Additionally, while creating an SSO, a SEP holder invariably has to license the innovation on F/RAND conditions. Even though the royalty is small in this situation, an injunction must not be issued unless the SEP holder has suffered irreparable harm.⁴

As F/RAND royalty rates are suffice compensation for the SEP in and of themselves, the use of injunction remedies against the willing licensees is unquestionably a violation of the F/RAND Commitments. The Competition Act of 2002 views this as the abuse of a dominant position as well. The equity principle, which is the cornerstone of injunctive remedies in India, is followed by the Indian Competition Law. In order to protect rights of patent holder, it is responsibility of the firms to guarantee

that their product meets the technical requirements as per F/RAND agreements. The parties concern should, however, be given a fair opportunity for submitting their position to the Court in SEP disputes.

There has been much discussion over the past few years about whether companies which owns SEPs should be able to obtain exclusionary remedy at International Trade Commission (ITC) or injunctive relief in a patent infringement lawsuit when those firms have previously agreed to License their already patented technology to anyone (corporate partners or rivals) on F/RAND Terms.²¹ Since consumer electronics items like cellphones, GPS units, tablets, and game consoles includes a number of industrial standards that includes patented technology, the matter has a special influence on the computer and telecommunications sectors. Many high end technology firms have been parties to patent infringement litigation and ITC proceedings including disagreements about SEPs and F/RAND licensing. Some producers of electronic devices refuse to agree to License the SEP because they find the SEP holder's requirements for high royalties to be unreasonable. In such a case, the SEP holder has requested that the royalty rate be determined by a court, as well as an exclusion order (from the ITC) or an injunction remedy (from federal courts) prohibiting the sale and/or importation of goods created by businesses that did not got a License. Some contend that a business that holds SEPs and has committed to Licensing it on F/RAND terms effectively shreds its ability to file a lawsuit for an injunction order against a business that implements standard but is unable to work out a License with an SEP holder. They express worry about the possible harm that permitting injunctive or exclusionary remedy in instances containing F/RAND-encumbered SEPs might have on the market and on American consumers.²² They also think that the fear of an injunction has a significant role in discussions on SEP licensing, favouring the SEP holder disproportionately. Others, however, contend that an SEP owner is entitled to injunctive action since F/RAND agreement by an SSO does not contain a pledge not to seek an injunction when necessary.²² However, they contend that involvement in the voluntary process of standard-setting may decline if an SSO obliged its concerned members to renounce their ability to exclude others (which is main privilege that a patent grants).

If SEP holders were restricted to only damages and not injunctive remedies, implementers of the industry

standard may forego getting a License before launching a product and wait for a federal court to decide on an award of damages for the infringement. The 112th Congress has held multiple hearings about SEPs, F/RANDs, injunctive relief, and patent disputes before the ITC despite the fact that no legislation has been presented in this area. This shows the Congress is interested in assessing the need for potential legislative remedies.

Net-balancing Royalties

The party concerned whose SEP portfolio adds smaller value to the applicable standards, Keeping all other factors being constant, shall be obligated to pay net balancing royalty. This shows the worth of the both parties' patents portfolios. The calculations that the patent owners do when they cross-license their concerned patent portfolios are comparable to those made when selling in an old automobile for a new one. When two patent owners cross-license their own patent portfolios, it is an equivalent transaction.²³ The counterparty is required to pay a certain royalties for each patent portfolio. The royalty required under a cross Licensing framework is often a net-balancing royalty, i.e. the difference between the one way royalties that each party pays the other for the use of their concerned patent portfolios. The difference between the royalties for more value portfolio and the smaller value portfolio will be covered by the net-balancing royalty, or the cash exchanged.²³

Which party is net payer of the royalty and which is the net recipient of the royalties, as well as the quantum of net-balancing royalty, are determined by the values that each party's patent portfolio creates for the other. Standard-essential patents that the parties have agreed to License under F/RAND conditions may be included in their patent portfolios. SEP holders frequently cross-license their portfolios of SEP into one other, allowing one party to produce goods that sync with the standards without infringement of SEPs of the other and to be paid for its contributions to the standard.²³ The party whose portfolio of SEP delivers smaller value to the applicable standards, while maintaining all other parameters static (including the each party's earning from the sales of its licensed items), would have to pay net-balancing royalty.

Conclusion

Different SSOs (national, regional, and worldwide, including inter-governmental and corporate

consortiums) that create the standards have IPR policies that aim to reduce the audacity of the SEP holders to exercise market dominance and recoup value from the standards. The purpose of this discourse is to explain why SSO's IPR rules are limited in constraining market power on an ex-ante basis. Are SSOs' IPR policies a reflection of conflicting interests?²⁴ The exact meaning of these ex-ante commitments is not sufficiently clear. Have SSOs' efforts to change their IPR policy in order to modify the F/RAND obligation been successful? Due to SDOs' restrictive IPR regulations, significant industry licensing practices including SEPs may be left up to the market's judgment.

Conflicting Objectives of SDOs and their IPR Policies

SSOs create standards when the industry has widely acknowledged their necessity. All business types, including R&D, manufacturing, distributors, etc., are eligible to join. A participant's voting power determines whether they are more or less "equal" in SSOs.²⁴ It's also vital to remember that joining SDOs is costly a task. In order for downstream standard-implementation companies to effectively use their voting power at SDOs, as they frequently do, they must participate in SDOs. Working groups are established to examine particular standards-related issues. Once a proposed standard's goals are established, businesses begin submitting their technology. The issue of IPR disclosure and the terms and conditions of their license doesn't come up until after that.

Standards are occasionally revised in response to new technical developments made by businesses. Technical standards are released over time in an essentially iterative process. However, it is pertinent to remember that there are substantial differences in roles, stakeholders, governance architecture, and models that might influence whether an SSO prefers more transparency and balance in IPR policies or less. The requirement for patent-centric companies to make their technology available for standards development and the need to persuade product-centric companies to apply these standards as broadly as possible places a heavy burden on SSOs. As a result, some critics view SDOs as two-sided platforms that must balance the costs of participation with their ability to promote the spread of standards. The purposes and objectives of SDOs also formally reflect this. SDOs do not, however, specify the 'Optimal' pace of diffusion or

how 'widespread' the implementation (diffusion) of the standard must be in the market. It essentially leaves the licensing and enforcement of SEPs to the forces of the market to produce any such results. The majority of SDOs at best have "access to all" (ATA) rather than "license to all" (LTA) as one of their primary goals. Diffusion must be at such levels that it does not create disincentives for the development of such standards and their future acceptance at levels of competition, one can only assume. Empirical studies that highlight the ambiguous link between patents and the spread of standards through SDOs make this obvious. Similar to this, the IPR obligations that SDOs place on SEP holders is relied upon how they perceive how patent holders have responded by providing technology to the development of standards in comparison to how implementers have responded by adopting the standards. Therefore, governance structures and SDOs' competitive goal of enlisting technical contributions from patent-holding companies in the development of voluntary collaborative standards have a significant impact on how their IPR policies are created.²⁵

The objective of this discourse is rather straight forward. It tries to demonstrate that SEPs raise a number of basic issues about how patent law interacts with many other business laws, such as contracts, competition law/policy, and trade regulation, among others. The aforementioned discussion concerning this domain has tried to look at and analyze these concerns. The discussion on various legal and regulatory elements of SEPs has begun as a result of this. It has also been demonstrated that there are fundamental issues when SSOs do not interfere ex ante to assess F/RAND obligations, which presents a number of difficulties in the interpretation of indeterminate contracts. Furthermore, there is also an unresolved fundamental difference of opinion regarding what constitutes F/RAND, how F/RAND royalties are calculated, and whether or not F/RAND-encumbered SEPs should receive injunctive relief. There may be a number of teleological consequences to the importance that courts place on standardization when it conflicts with private property rights, including the influence of commerce and dynamic competition (innovation).²⁶ In recent years, this issue has grown in scope as developing nations have made an effort to explain their stakes. In the years to come, it's possible that how the global trade and regulatory regime will function both inside and outside of the

WTO to address emerging worldwide patent challenges concerning SEPs may profoundly reshape patent legislations and policy everywhere.

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