

An economic approach to antitrust analysis of discriminatory licensing, grant backs and cross-licenses, no-challenge clauses, and patent thickets

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Differential pricing and discriminatory refusal to license

Offering different licensing terms, including both price and non-price elements, to 'similarly situated' licensees is generally viewed as discriminatory. This definition differs from that typically used for tangible products and services: selling the same product to different customers at different prices which cannot be justified by differences in costs. The IP definition reflects the costly and risky nature of research and development efforts and the relatively low marginal cost of licensing.

Differential pricing can have both anticompetitive and procompetitive uses. The potential pro-competitive uses of differential pricing of IP licenses include improved efficiency, growing markets, intensified competition, and enhanced consumer welfare. For example:

- Licensors can adjust their royalties downwards for licensees facing more price-sensitive customers.
- Differential pricing helps a firm with fixed costs to recover its outlays.

Nearly all concern over potentially harmful discriminatory licensing has centred on the practices of vertically-integrated firms that both hold patents and practice them in a downstream market. However, the possibility of market expansion and other efficiencies indicates the need for a cautious approach to assessing discrimination in licensing even vertically integrated firms are involved.

Grant backs and cross-licenses

Grant backs and cross-licenses, like other licensing restraints, are generally procompetitive because they may facilitate the integration of complementary technologies, promote the dissemination of a technology, reduce transaction costs, clear blocking positions, and avoid costly patent infringement litigation.

They should nonetheless be analysed case by case under an effects-based approach.

- Grant backs are arrangements, under which a licensee extends to the licensor the right to use the licensee's improvements to the licensed technology. Grant backs can address market failures related to sequential innovation. Firms innovating early in the innovation sequence are unlikely to benefit from all innovations that build upon their efforts. Grant backs can address this market failure, as they reward the licensor for possible further innovations based on the licensed technology.
- There is a risk that grant backs may adversely affect competition, if they limit rivalry in innovation. This could happen if they substantially reduce licensee's incentives to engage in research and development; facilitate leverage of market power of the licensor into other markets; or extend the term of the patents that are covered by the initial agreement.

Cross-licensing agreements, under which two or more parties give each other the right to use each other's intellectual property, can be highly procompetitive. They can solve the complements problem, which arises when there are multiple gatekeepers, each of which must grant permission before a resource can be used. Such a situation can prevent the resource from being used and hence stifle innovation. With cross-licensing, each firm is free to compete, both in designing its products without fear of infringement and in pricing its products without the burden of making a per unit royalty payment due to its counterparty.

Cross-licenses can have anticompetitive effects in certain limited circumstances. Such circumstances include their use as a cover for price-fixing or market division, or when a vertically integrated firm uses cross-licenses to obtain an insurmountable competitive advantage over non-integrated rivals.

No-challenge clauses

A no-challenge clause prevents a patent licensee from challenging the validity of a patent it has taken a license for, but that constraint applies only after it has executed a license agreement.

No-challenge clauses can improve incentives to innovate. They reduce the incentive for ex-post opportunism by the licensee after the licensing agreement has been signed. In a negotiation over a license for a large IP portfolio, both parties understand that some of the many patents in the portfolio may be invalid but that it would be prohibitively costly to identify those potentially invalid patents. Instead, the parties determine a portfolio royalty that accounts for the possibility that some of the portfolio's patents may be invalid.

Encouraging a licensee to challenge the validity of individual licensed patents invites opportunistic litigation by the licensee. This could impose significant harm on consumers. Opportunistic litigation could delay payment to the IP holder of the agreed-upon royalty for the use of the many more valid patents in the portfolio. The IP holder's incentive to invest in innovation would be reduced, if the holder does not receive compensation for its innovative contribution as agreed. Also, a rule that allowed licensees to negotiate terms under the assumption of probabilistic patents and then allowed them to exercise the option to challenge validity would naturally undercompensate upstream innovators.

Furthermore, it is difficult to see how including a no-challenge clause in a license agreement could amount to the unlawful acquisition or maintenance of monopoly power or dominance. The purpose of competition law is to protect the competitive process and not individual competitors. No-challenge clauses do not provide the IP holder any enhanced leverage.

Patent thickets

Patent thickets are overlapping sets of patent rights required by those seeking to commercialize new technologies. In such a situation, there could be a concern that users would need permission from multiple rights holders in order to use the assets. The difficulties of coordination would lead to inefficient underuse. A related concern is that cumulative royalties could become so high that it cripples the product market, as patent holders set their royalty rates without regard to royalties of other patent holders that hold complementary patents. A final concern is that patent thickets could result in inadvertent infringement of patents issued after products are designed, and that patent owners can use thickets to block follow-on innovation.

These concerns do not appear to be borne out in the real world in the context of licensing of SEPs that are subject to FRAND commitments. This is for several reasons. *First*, industry practice is for SEP holders to license their patents on a worldwide portfolio basis, and many SEP holders do not assert. SEP holders may also have insufficient leverage to push supra-FRAND rates, if SEPs have limited or no applications outside of the standard. SEP holders will be cooperating with one another in the development of the standard. As a result, there is no reason to presume that SEP holders will set rates without regard to the full complement of known SEPs. *Second*, most standard-developing organisations (SDOs) require patent holders to disclose any IPRs contributed to the standard. It is highly unlikely that product manufacturers will be unaware of the potential SEPs that their products read upon. *Third*, FRAND commitments limit any power of the patent owners to block follow-on complementary innovation. The likelihood of obtaining injunctive relief on SEPs is low, particularly in the United States. *Fourth*, patents are not self-enforcing. Implementers can and routinely do use patented technology without permission. It is easy to understand why this can be an attractive strategy for an implementer. The worst penalty an SEP infringer is likely to face after adjudication around the world is merely paying the FRAND royalty that it should have agreed to pay when first asked.

Four potential solutions to the so-called patent thicket problem have been proposed: cross-licensing, patent pools, standardization, and package licensing for complementary patents. Cross-licensing and patent pools could be effective approaches to solving thicket problems - but the efficiency gains from such measures are uncertain (because the size of any inefficiencies associated with patent thickets is uncertain). That said, it is important to allow private-ordering mechanisms to enable markets to identify and pre-empt potential patent thickets.

Ex-ante incremental (or “inherent”) value approach

Some have recommended an *ex-ante* incremental value approach to SEP valuation, under which courts would cap the royalty at the incremental value of the patented technology over alternatives available at the time the standard was defined.

Such an approach is, however, difficult to administer in practice. In addition, such an approach misunderstands the nature of technology development within SDOs - at least with respect to cellular wireless technologies like 5G. These technologies are collaboratively developed over a significant time period within SDOs. It is thus unlikely that there would be several similarly situated technologies available prior to standardization. Once technological development has taken a specific direction, competing technology holders will have no incentive to continue develop alternative technologies. As such, an *ex-ante* incremental value approach could result in very high royalties due to the likely large value differential between the fully developed technology and any abandoned alternatives at the time the standard is defined.

An *ex-ante* valuation approach prevents patent holders from recouping investments in risky research and development based on the fully realized potential of their technology. If SEPs are valued based on their *ex-ante* or inherent value, divorced from any value created by standardization, technology developers will be excluded from sharing adequately in the full value of standardization.