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Economics of Competition & Regulation January 2008

Pricing Patents

FRAND royalties as an antitrust remedy after *Microsoft*

The requirement for fair, reasonable and non-discriminatory, - known as FRAND, FRND or simply RAND - pricing has become prevalent in regulatory circles. Yet while excessive prices are the classic textbook abuse of market power they do not feature prominently in antitrust law, nor do many see price control as one of its legitimate functions. This has now changed. The European Commission's landmark *Microsoft* (2004) decision together with the recently launched Article 82 investigations into Qualcomm and Rambus have set it on the a course of regulating prices in general and of intellectual property rights (IPRs) royalties in particular. But just as the concept of a fair price eluded Aristotle it will also defeat antitrust officials and judges, requiring as one put it '*more the talents of a conjurer than those of a judge*'. Here the difficulties of determining FRAND royalties as an antitrust remedy in patent and copyright cases are examined.

FRAND defined

The notion of 'reasonable' and 'non-discriminatory' prices is poorly handled by EC competition law.

The European court in *United Brands* said an unreasonable price is 'unfair', and '*excessive because it has no reasonable relation to the economic value of the product*'. It indicated that a cost-oriented approach might be used to determine whether the profit margin was excessive, but other methods were acceptable. The useless generality of this test was revealed by the UK Competition Appeals Tribunal in *Attheraces v. BHB* which rejected a lower court's 'profits test' ('the cost of production plus reasonable return') as a measure of 'economic value' as too narrow. The European Commission in *Microsoft* clouds matters further by introducing, for the first time, the concept of '*strategic value*' defined as '*remuneration ... stemming from ... market power*'. According to this test a reasonable price contains no strategic value.

The EC position on discriminatory pricing is little better. A discriminatory price is one that is not based on objective differences, usually costs. This was the position taken recently by the UK telecom regulator (Ofcom) which used cost orientation principles to determine FRND rates for Technical Platform Services i.e. basically set top boxes for pay TV.

The problem with these approaches to FRAND prices is that they collide with intellectual property law, commercial practice, and basic economics. 'Excessive' and 'discriminatory' pricing occur as a matter of course for IPRs. Prices for patents and software licences are typically value-based; highly discriminatory; and reflect market power, and therefore strategic value. The question is when these practices cross the boundary of antitrust law, not their inherent existence

Market approaches to FRAND

One seemingly straightforward approach to FRAND as an antitrust remedy is to use market valuations of comparable IPRs. This was the approach adopted in *Microsoft*. The pricing principles agreed between the European Commission and Microsoft required that FRAND royalties for interoperability protocols be set by *'a market valuation of technologies deemed comparable, excluding the strategic value that stems from the dominance of any such technologies'*. This only deals with the question of reasonableness, and relies on the presence of directly comparable patents or software.

Another approach used in the IPR valuation literature is the 'income approach'. This calculates the royalty rate as some standard percentage of incremental income generated by a patent or copyright using industry rules of thumb. However, again this only deals with the question of reasonableness, and relies on arbitrary assumptions to determine reasonable royalty rates.

There are other difficulties with these *ex post* approaches when used as an antitrust remedy. The first is that they do not address the fundamental question as to which business and pricing model would have been used in the absence of the abuse of dominance. For example, a profit maximising software company can set its royalty rates at any level – at zero, below zero, below incremental costs, and above total average costs - and this may be consistent with a competitive outcome (at different stages of the product cycle). Second, the size of the dominant undertaking's installed subscriber base or market share may be vastly greater than it would have been under competitive conditions, but by using the above approaches it would receive high royalty payments using *ex post* methods of valuation. Moreover, these royalty rates may not be able to undo the damage done by the abuse of dominance since royalty rates play a less significant role in influencing demand at high levels of penetration. Finally, as already discussed standard *ex post* royalty calculation methods say nothing about discriminatory royalties.

Ex ante approaches

It should by now be clear that a FRAND royalty is a regulatory not a market concept. It is encountered mostly in discussions of how Standards Setting Organisations (SSOs) should collectively set/negotiate royalties (including zero royalties) to avoid 'holdout' and 'excessive pricing' by patent/copyright holders whose software is incorporated into an industry standard.

This hints at the fact that the appropriate economic approach may be *an ex ante* valuation of FRAND royalties i.e. before the *de facto* industry standard is decided and licensees are locked into a particular technology. This approach would use competition 'for the market' rather than 'in the market' as a guide to thinking about reasonable royalties.

One application of this approach is to have patent-holders bid the lowest royalty rate for the right to have their IPRs included as part of an industry standard. This royalty rate would be deemed the 'reasonable' royalty rate in a FRAND pricing scheme. If there is *ex ante* competition (which may require as few as two patent holders) the royalty rate would equal the incremental costs of the licensor plus the difference in value between the best and next best alternatives. If there are sufficient substitutes, the reasonable royalty would approach the licensor's incremental costs. Thus any supra-competitive profits (strategic value) would be eliminated except where the IP holder has *ex ante* market power. That is a FRAND royalty would equal the licensor's incremental costs.

As to the non-discriminatory part it has been suggested that the Efficient Component Pricing Rule (ECPR) or retail minus be used. The royalty rate would be set at the difference between the licensor's downstream prices minus its input costs, or what is the same thing costs plus the opportunity costs of the licensor in licensing the IPR. That is the non-discriminatory royalty equals P–IC, where P is the downstream price and IC the incremental costs of the non-patent inputs.

Further complications

While the *ex ante* approach has an attraction it does not deal with full complexity that patents generate in dominance cases.

One complication is network effects which often characterise patent-based markets. These are demand-side interactions which lead, loosely speaking, to network size and number of applications influencing the purchase decisions of consumers. One consequence of network effects is that a market may tip in favour of one patent-holder (which in an antitrust action will have been the case) whether or not there have been antitrust abuses. Where there has been an abuse and tipping then the competitive position will not be reinstated simply by FRAND royalties and compulsory licensing. If a FRAND royalty is set where none existed before or is reduced, this is likely to have little impact on the dominant undertaking's market penetration. As a consequence a FRAND royalty will not necessarily work toward reinstating the presumed competitive outcome.

Conclusions

The law and economics of FRAND royalties is not well worked out and is, not surprisingly, complex. Standard methods of valuing IPRs, such as the incremental income approach and benchmarking against other patent royalty rates do not provide adequate guidance for FRAND royalties as an antitrust remedy. The alternative is an *ex ante* approach but this will inevitably be hypothetical and indeterminate where network effects are present. The implication is that antitrust authorities should enter this area with extreme caution, and great reluctance.

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