Support For Innovation Activity: Searching for an Effective Balance between Competition Policy and Protection of Intellectual Property Rights

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Motivation: arguments around legal environment of IPR markets in Russia

- Permanent ‘pro-innovation’ rhetorics in the political discourse of Russia
- Weak protection of intellectual property rights (IPR) according to different rankings, high rate of counterfeit production (estimations)
- 2014: possible introduction of so-called 4th Antitrust Package – elimination of exceptions for IPR
- Absence of specific antitrust regulations in the area of IPR

General Idea

- Antitrust policy (in particular, prevention of ‘monopoly’ pricing or compulsory licensing) restricts IPR
- Counterfeiting (piracy) dilutes IPR but possibly strengthens competition
- Total effect of active antitrust measures in combination with developed piracy may be dangerous for innovative activities
- Promotion of innovations requires mitigation of this ‘cumulative’ risk

Need to find a balanced set
(antitrust policy; IPR protection policy)

Literature

- [Schumpeter, 1942], [Arrow, 1962]: first questions on the optimal market structure in the area of IPR
- Models finding a connection between competition and innovations: [Gilbert, Newbery, 1982], [Reinganum, 1983], [Katz, Shapiro, 1985] (includes licensing), [Aghion, Griffit, 2005], [Acemoglu, Akcigit, 2012] (with compulsory licensing)…
- 1990s and 2000s: Regulations from the USA and the EU
- Huge array of modern literature seeking for compromise: competition policy – IPR (e. g. [Motta, 2004], [Anderman, 2007], Sellers [2009], …)

Model: Assumptions - 1

- Two incumbents legally compete a la Cournot in the market, each incumbent invests a fixed amount *X a priori*
- Pirates may enter the market in the case of a poor protection of IPR, pirates may produce exactly *N* units of product and sell them at a price equal to marginal costs of production
- The 'first' firm-incumbent may invest a fixed amount *M* in the creation of an innovation, to obtain, as a result, a decrease in marginal costs of production from *c* to c_1

Model: Assumptions - 2

- The ‘second’ incumbent will get no access to this innovation until the ‘first’ incumbent gives (sells) a license, which may be given only under the regime of compulsory licensing optionally introduced by the law
- The fee *F* for a compulsory license (*F is* transferred from the second to the first firm) is set by the antitrust regulator in a voluntary manner
- Pirates will automatically get access to the innovation if they act in the market

Model: 6 Situations

- The main question repeats the question from the Model I: will it be attractive for the firm (here – the 1st firm) to introduce an innovation?
- 2 ‘basic’ ‘pre-innovative’ situations (for the purpose of comparison: (A) Situation without counterfeiting and (B) Situation with counterfeiting
- For each of “basic situations” there are two alternative ‘innovative’ situations: with and without compulsory licensing. So, we have 4 additional ‘innovative’ situations

Model: Analysis

- Cournot equilibrium is found for each situation
- The main criterion of comparison is the maximal level of ‘innovative’ investment, which could be provided by the 1st (‘innovative’) firm under each set of circumstances
- This level is obtained from the condition of profitability of the 1st firm’s move from ‘basic’ to corresponding ‘innovative’ equilibrium

Modeling results: investment ceilings

	No piracy	Piracy
No compulsory licensing	$\bar{M}^{I} = \frac{4(c-c_1)(a-c_1)}{9b}$	$\bar{M}^{III} = \frac{4(c-c_1)(a-c_1-bN)}{9b} < \bar{M}^{I}$ При F = M /2 : $\bar{M}^{III} < \bar{M}^{II}$
Compulsory licensing	$\bar{M}^{II} = \frac{2(c-c_1)(a-\frac{1}{2}c-\frac{1}{2}c_1)}{9b} + F$ При F = M /2 : $\bar{M}^{II} = \frac{4(c-c_1)(a-\frac{1}{2}c-\frac{1}{2}c_1)}{9b} < \bar{M}^{I}$	При F = M /2 : $\bar{M}^{IV} = \frac{4(c-c_1)(a-\frac{1}{2}c_1-\frac{1}{2}c-bN)}{9b} < \bar{M}^{III};\ \bar{M}^{IV} < \bar{M}^{II};\ \bar{M}^{IV} < \bar{M}^{I}$

Modeling results

- Investment ceiling: $\bar{M}^{I} = \frac{4(c - c_1)(a - c_1)}{9b}$

depends on the difference between costs before and after innovation, price sensitivity of market demand and reserve price of consumers

- Piracy impedes innovations ('investment ceiling' in situations with piracy is lower, other things being equal)

E. g. in cases without compulsory licensing

$$\bar{M}^{III} = \frac{4(c - c_1)(a - c_1 - bN)}{9b} < \bar{M}^{I}$$

Modeling results

- Compulsory licensing imposed by a regulator may (and, most probably, will) negatively affect ‘investment ceiling’
- Even if a licensee compensates to the licensor a half of his ‘innovative’ investment M, ‘investment ceiling’ for the latter will be lower in comparison with the basic situation
- There may be a positive influence of compulsory licensing on the incentives to innovate, if the amount of licensing fee exceeds a half of innovative investments
- The combination of counterfeiting and compulsory licensing is the most unfavorable for innovators… but favorable for consumers.

Conclusions and Policy Implications

- The level of intellectual property rights protection should be included in the analysis of antitrust problems
- Weak property rights combined with the strong antitrust policy may bring dangerous effects on innovators
- The formulation and implementation of state policies in antitrust and property rights protection should have internal consistency

Thank you!