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## Intellectual Property Rights Protection Versus Antitrust: Tug of War?

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Market competition is strongly associated with innovations. Nowadays, innovations are largely the result of intellectual action. Protecting intellectual property rights often provides special conditions for the holder of these rights. From the point of view of antitrust authorities, such conditions may be qualified in terms of market power and/or market dominance. That is why the discussion on balancing competition, innovations, and market power considerations is among the most popular and urgent topics in the area of industry organization.<sup>2</sup> This search for a balanced economic policy, and equally balanced regulations, can strongly affect incentives for innovation.

In this paper we consider the relationship between antitrust policy and intellectual property protection under the condition of poorly enforced intellectual property rights protection (despite their presumably strong protection on paper).

This problem is a particular case of a more difficult and larger problem: interrelations between competition and competition policy, on the one side, and property rights protection (including contract enforcement), on the other side. Here we concentrate on the “defensive” part of antitrust policy, which is aimed at the protection of competition by means of mergers and acquisitions control, prohibition of market dominance abuse, and anticompetitive agreements,<sup>3</sup> which may be in conflict with intellectual property protection. Specific features of intellectual property objects seek for specific approaches to antitrust policies.

These different approaches are already fixed in national legislations and antitrust practice. The U.S. Department of Justice (“DOJ”) and Federal Trade Commission (“FTC”) provide special antitrust regulations for cases connected with intellectual property rights. In 1995 they introduced “Antitrust Guidelines for the Licensing of Intellectual Property.” Later publications by DOJ and FTC<sup>4</sup> confirm that principle points from that document have become crucial policy cornerstones in the context of intellectual property and antitrust.

The Guidelines include several important assumptions. First, “the same general antitrust principles” are applied to the intellectual property as to any other property, and intellectual

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<sup>2</sup> S. Avdasheva & A. Shastitko, *Industrial and Competition Policy: Problems of Interaction and Lessons for Russia*, 35 (4) SOCIAL SCI. 39-50 (2005).

<sup>3</sup> Авдашева С.Б., Шаститко А.Е. Конкурентная политика: состав, структура, система, 1 Современная конкуренция 5-20 (2010), (S. Avdasheva & A. Shastitko, *Competition Policy: Content, Structure, System*, 1 CONTEMPORARY COMPETITION 5-20 (2010).

<sup>4</sup> U.S. DOJ & FTC, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION, available at [www.usdoj.gov/atr/public/hearings/ip/222655.pdf](http://www.usdoj.gov/atr/public/hearings/ip/222655.pdf).

property does not “create market power in the antitrust context” by itself. At the same time, intellectual property has some distinguishing characteristics, “such as ease of misappropriation,” which give place to a special approach. Special considerations may arise in the context of particular conditions of licensing agreements: some of them may be potentially harmful for competition but the ease of misappropriation of intellectual property “may justify the use of such restrictions.” The Guidelines even proclaimed the antitrust “safety zone” for licensing arrangements. This means that licensing restraints generally will not be prohibited and persecuted. Another substantial feature emphasized by FTC and DOJ is the ambiguity of intellectual property boundaries, i.e. the insufficiency of knowledge on the real scope of property rights even for rights holders themselves.

The European Union adopted a new Regulation in the area of antitrust and intellectual property in 2004.<sup>5</sup> The general sense and goal of this new Regulation is to provide a “safe harbor” for intellectual property licensing agreements in order to promote innovation. It replaced Technology Transfer Block Exemptions (“TTBE”), which were in action since 1996. TTBE had the same function: to create specific exemptions from antitrust legislation in the area of intellectual property.

The U.S. DOJ agreed that those new European rules followed “economic effects-based approach,” as to the U. S. Guidelines.<sup>6</sup> Former EU regulations had followed a structural approach and were more legalistic. The Russian Law “On the protection of competition” also includes several points (articles 10 and 13) referring to particular attitudes towards the context of intellectual property rights. These points provide specific antitrust exemptions too.

The problem with the Russian laws lies in the relative novelty of legislation on intellectual property rights protection. The corresponding (fourth) part of the civil code was adopted only in 2008. Intellectual property rights are still a weak point of the Russian institutional environment, which was<sup>7</sup> especially acute in the context of the Russia’s WTO accession.<sup>8</sup> According to the annual *Global Competitiveness Report* of the World Economic Forum, Russia was ranked 126<sup>th</sup> out of 142 countries by “Intellectual property protection” (and 130<sup>th</sup> by “Property rights”).<sup>9</sup> Such a low result is not surprising: nearly the same conclusion may be applied for a considerable number of emerging market economies, even if intellectual property is formally well protected. The lack of enforcement and supporting informal institutions undermine the efficiency of legislation.

The nature of antitrust policy, its priorities, and its peculiarities depend on the established institutional environment, including characteristics of property rights protection. The development of information technologies and the growth of intangible assets’ share in the assets of economic entities have attracted attention to the area of intellectual property protection. Balancing between antitrust policy and intellectual property rights protection is especially urgent for developing economies when considering their transition to an innovation-based path of development.

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<sup>5</sup> Commission Regulation (EC) # 772/2004 of 7 April 2004.

<sup>6</sup> <http://www.justice.gov/atr/public/speeches/203228.pdf>.

<sup>7</sup> Since all substantive obstacles for Russia’s WTO accession had been removed at the moment.

<sup>8</sup> S. Katz & M. Ocheltree, *Intellectual Property Rights as a Key Obstacle to Russia’s WTO Accession*, 73 CARNEGIE PAPERS (October 2006); W. Cooper, *Russia’s Accession to the WTO*, CRS Report for Congress (2008).

<sup>9</sup> WORLD ECONOMIC FORUM, *THE GLOBAL COMPETITIVENESS REPORT 2011-2012*, pp. 390-392 (K. Schwab, ed. 2011).

A policy of intellectual property protection is also of great importance for specific spheres, including research and development in general, as well as industries with great intellectual value added: IT, pharmacy, entertainment, etc. Undoubtedly, the role of intellectual products grows everywhere but some areas, including the above mentioned, are traditionally more sensitive to intellectual property rights protection.

Specification of intellectual property rights—exclusive rights to the results of intellectual activities—provides a considerable advantage to the holder of such rights over other competitors. In cases of an absence of substitutes, the holder becomes the single supplier in the market—the monopolist. This intellectual property protection, along with allowing contract freedom, may be factors of market monopolization. However, that is not a universal way: As M. Ganslandt notes, usually the application of intellectual property rights does not restrict competition because of the presence of numerous competing products.<sup>10</sup> At the same time, the capture of a monopolistic position or dominance in the market is not uncommon; it occurs if an innovative product is unique or intellectual property protection is so large-scaled and comprehensive that market entry is impossible without a violation of intellectual property rights.<sup>11</sup>

The goal of antitrust policy is to smooth such monopolistic effects. As such, this kind of policy usually represents a cluster of regulations aimed at limiting property rights and excluding them from a freedom of contracts. These restrictions exist in the framework of intellectual property protection; they should limit intellectual property rights to prevent market power abuse.

There is a large, refined discussion on the question of whether effective intellectual property rights protection positively affects social welfare and economic growth.<sup>12</sup> Or is it more rational to break these rules? Participants in and observers of this discussion often dispute about the collision between the concepts of strongly motivating property rights protection, on the one hand, and free competition efficiency, on the other.

As J. Vickers notes, “The orthodox (and often correct) position is that stronger IPRs, including laissez-faire competition policy towards the exercise of IPRs, are good for innovation.”<sup>13</sup> He emphasizes that this position may be proved by a single-period model. At the same time, competitive struggle is no less important as an impetus to innovate. It may be said that both policies have the promotion of competition as their goals.<sup>14</sup> Intellectual property protection contributes to the development of competition before the occupation of a specific innovation-based market niche (*ex ante*), and antitrust policy is aimed at promoting competition in the framework of established market structure. Despite sharing their goals, however, the

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<sup>10</sup> M. Ganslandt, *Intellectual Property Rights and Competition Policy*, IFN Working Paper No.726, p. 2 (2008).

<sup>11</sup> J. Sellers, *The Black Market and Intellectual Property: A Potential Sherman Act Section Two Antitrust Defense?*, 14 ALBANY L.J. SCI. & TECH. 585 (2004).

<sup>12</sup> D. W. Carlton & R. H. Gertner, *Intellectual Property, Antitrust, and Strategic Behavior*, NBER Working Paper 8978; M. Motta, *COMPETITION POLICY, THEORY AND PRACTICE* (2004); S. ANDERMAN, *THE INTERFACE BETWEEN INTELLECTUAL PROPERTY RIGHTS AND COMPETITION POLICY* (2007); D. Encaoua & A. Hollander, *Competition Policy and Innovation*, 18(1) OXFORD REV. ECON. POL'Y 63-79 (2002); J. Vickers, *Competition Policy and Property Rights*, CPI ANTITRUST CHRON. 1-27 (June 2009); B. Dumont & P. Holmes, *The Scope Of Intellectual Property Rights and their Interface with Competition Law and Policy: Divergent Paths to the Same Goal?*, 11(2) ECON. INNOVATION & NEW TECH. 149-162 (2002).

<sup>13</sup> J. Vickers, *Id.* at 13.

<sup>14</sup> M. Ganslandt, *Id.* at 9.

directions use fundamentally different, even contradictory, instruments. This leads to obvious disagreements, especially if a legal holder of rights obtains a significant degree of market power.<sup>15</sup>

Researchers show that it is possible to find an efficient compromise between these two branches of policy with respect to specific problems, industries, and types of institutional arrangements; in particular, in industries where unreasonably excessive property rights protection may impede innovations (e. g. in case of sequential, cumulative innovations built on previous achievements).<sup>16</sup> However, the main direction of research is mostly connected with the modification of the legal regulation of intellectual property, and not with the application of current intellectual property rules in the context of antitrust policy.

The focus of the discussion substantially shifts if we introduce into our analysis a possibility of opportunistic behavior that breaks the current laws on intellectual property and violates contract rights, especially in form of hidden actions.

Such a context is especially urgent for emerging market economies with relatively weak market institutions. First, there will be less policy experience with respect to competition and private intellectual property that can be called upon to make the most efficient decisions for the development of concerned markets. Second, intellectual property rights protection in those countries is usually weaker.

However, the case of antitrust investigations against Microsoft in the United States and the European Union shows that the problem has also not lost its urgency for developed economies, especially if we take into account the opportunity to use antitrust regulations as a “weapon” in a competitive struggle. A large critique of the decision on the Microsoft case (which expired only in 2011),<sup>17</sup> and of the process itself, shows that opinions on antitrust regulations at the cutting edge of current technologies may be quite controversial. Researchers following the process noted the division between the economics of the question, on the one side, and the litigation and its results, on the other side—partially because of the inconsistency of the theory itself at the time, and partially because of the reluctance of legal system to face them.<sup>18</sup> Other difficulties of the litigation, namely its complexity, length, and expensiveness, were multiplied due to the active role of regional authorities, often lacking resources and expertise and acting under conditions of deformed incentives.<sup>19</sup>

The difficulty of intellectual property rights protection even in developed economies, and in relationships between large and famous companies, is again emphasized by recent patent wars in the smart phones and tablet computers markets. Apple, Google, Microsoft, Samsung, HTC, Motorola, RIM, and another dozen of well-known market players have been involved in intellectual property litigations in a wide range of countries: Japan, the United States, Australia,

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<sup>15</sup> M. Ganslandt, *Id.* at 8; D. Encaoua & A. Hollander, *Id.* at 11.

<sup>16</sup> J. Green & S. Scotchmer, *On the division of profit in sequential innovation*, 26(1) RAND 20-33 (1995); J. Vickers, *supra* note 12 at 16 – 20.

<sup>17</sup> NY Times, *Did the Microsoft Case Change the World?*, available at <http://www.nytimes.com/2011/05/15/opinion/15sun2.html>.

<sup>18</sup> N. Economides, *United States v. Microsoft: A Failure of Antitrust in the New Economy*, 32 UWLA L. REV. 3-44 (2001); T. Brennan, *Do Easy Cases Make Bad Law? Antitrust Innovations or Missed Opportunities in United States v. Microsoft*, 69 (5-6) GEORGETOWN L. REV. 1042-1102 (2001).

<sup>19</sup> R. Posner, *Federalism and the Enforcement of Antitrust Laws by State Attorneys General*, 2(1)GEORGETOWN J.L. & PUBLIC POL'Y 5-15 (2004); R. Hahn & A. Layne-Farrar, *Federalism in Antitrust*, 26(3) HARVARD J.L. & PUBLIC POL'Y 877-921 (2003).

Germany, and others. Such an intensity of trials may be considered as the evidence of using “patent weapons” against competitors.<sup>20</sup> Regardless, the abundance of expensive and time-consuming litigations show the ambiguity of intellectual property rights, which cannot be defined automatically even in developed economies with strong enforcement of property rights.

However, unlike developed economies, developing countries are usually distinguished by an insufficient level of property rights protection in general, along with a low efficiency of law enforcement, let alone the problems of defining a balance between the use of antitrust instruments and the protection of intellectual property rights.

There are other particular features of developed economies connected with the framework of competition policy.<sup>21</sup> The existence and the intensity of competition can depend on entry barriers. The general attitude to intellectual property in the U.S. Guidelines is based on the assumption that objects of intellectual property usually have close market substitutes. This condition may not be true for developing economies, especially for countries in transition. Sometimes these countries maintain partial isolation from global markets, high entry barriers for domestic as well as foreign newcomers, and only a modest potential of commercially viable technologies inside the country. These conditions lead to higher levels of market concentration and make it even more difficult for antitrust authorities to make reasonable, economic effect-based decisions.

Violation of intellectual property rights primarily means counterfeiting—sales of intellectual property objects without necessary formal settlements with holders of property rights. Widespread occurrence of such practices is motivated by a variety of intellectual property features: high costs of access, high fixed costs, and minimal variable costs.<sup>22</sup> These properties produce several factors, which directly contribute to incentivizing counterfeits:

- the crucial importance of intellectual activity for the production of a huge amount of goods and services;
- high costs to make an appropriate substitute of an object of intellectual property;
- minimal direct costs of copying, including counterfeit production; and
- negligible expected penalties for commercialization of counterfeit goods, especially with respect to the high costs of monitoring the enforcement of intellectual property rights.

Large-scale production and sales of counterfeit goods (i.e. goods produced with the illegal use of someone else’s intellectual activities) considerably change goals and constraints of antitrust authorities, as well as legal producers.

The technology of antitrust control in the framework of the “hard core of antitrust”—the prevention of market dominance abuse and anticompetitive agreements, mergers control — includes not only the qualification of market players’ behaviors and their consequences, but also

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<sup>20</sup> <http://www.firstpost.com/fwire/samsung-tablets-banned-in-australia-106640.html>;  
<http://www.reuters.com/article/2011/09/22/us-google-oracle-idUKTRE78L72I20110922>;  
[http://www.computerworld.com/s/article/9219161/Continuing\\_coverage\\_Patent\\_wars](http://www.computerworld.com/s/article/9219161/Continuing_coverage_Patent_wars)

<sup>21</sup> Detailed investigations may be found in: M. Lahouel & M. Maskus, *Competition Policy and Intellectual Property Rights in Developing Countries: Interests in Unilateral Initiatives and a WTO Agreement*, The WTO, World Bank Conference on Developing Countries in a Millenium Round (1999).

<sup>22</sup> R. Gilbert & A. Weinschel, *Competition Policy for Intellectual Property: Balancing Competition and Reward*, Competition Policy Center WP 370408 (2007).

the qualification of their market position in the context of market structure and competition intensity in the market.

A correct determination of an agent's market position is an important element of avoiding errors of I and II types in the enforcement of regulations,<sup>23</sup> i.e. a crucial condition not only for identifying monopolistic practices and assessing possible consequences of mergers and acquisitions, but also for justifying penalties and regulatory decisions concerning mergers and acquisitions.

Determining a market's geographic and product boundaries is a necessary component of the qualification of a firm's market position. This is why countries with an established structure of antitrust legislation adopt special rules to determine those boundaries. However, determining the product market for intellectual property objects may involve specific difficulties.<sup>24</sup>

Under conditions of poor property rights protection, counterfeit substitutes (goods which can potentially be substituted for legal original goods) may exist in many markets. It can be difficult to judge whether one good constitutes a real substitute for another; it is necessary to clarify consumers' opinions as to whether legal and illegal copies of equivalent products may be substitutes in practice. It is also important to note that official statistical data can hardly be relevant because of the absence of information on illegal copies' sales.

The problem of a correct determination of product markets for the purposes of antitrust law enforcement in the context of piracy has not yet been comprehensively studied. However, there are several detailed investigations for specific countries,<sup>25</sup> which may be associated with studies in law and economics.

To clarify and to aid further analysis, we propose a simple market model. In this market goods are produced with the intensive use of intellectual activities. We shall explore the influence of different variants (discrete structural alternatives) of regulation on the final results of market interaction and surpluses of specific market players.

We assume that the entrepreneur needs to make a decision concerning the investment in the creation of an intellectual property object in an amount of  $X$  in the "zero" period. In the case of a positive decision he becomes a producer of legal copies of the product in the "first" period. Simultaneously, copies of the product may be produced by other agents ("pirates"), also in the first period, but without having to make any preliminary fixed investments.

If the entrepreneur invests, he obtains a patent and becomes the single holder of rights for the production and sales of copies. Pirates can reproduce and sell copies only if intellectual property rights are not protected.

We make an assumption that the product made by the entrepreneur has no close substitutes from the point of view of antitrust legislation. So, the entrepreneur is the single agent that is able to legally produce and sell the product. That is why the antitrust regulatory body will consider him as a monopolist (in legalistic terms, a dominant economic entity, whose market share equals 100 percent).

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<sup>23</sup> P. L. Joskow, *Transaction cost economics, antitrust rules and remedies*, 18(1) J. L. ECON. & ORG. 95-116 (2002); A. Shastitko, *Errors of I and II types in economic exchanges with third party enforcement*, 10 J. NEW ECON. ASS'N, 125-148 (2011).

<sup>24</sup> D. Encaoua & A. Hollander, *supra* note 12 at 6-8.

<sup>25</sup> J. Sellers, *supra* note 11 at 583 – 635.

If the market falls under the effective antitrust regulation then the entrepreneur will not be able to sell his goods at prices that considerably exceed competitive prices.<sup>26</sup> We suppose that the upper limit is equal to average costs, including the value of the investment made in the “zero” period.

Table 1 represents a taxonomy of situations, which may occur under different characteristics of the institutional environment:

**Table 1: Discrete structural alternatives of market regulations for objects of intellectual property**

	<b>Effective antitrust policy is present</b>	<b>Effective antitrust policy is absent</b>
Intellectual property rights are protected	1	2
Intellectual property rights are NOT protected	3	4

Market demand is specified by the equation  $P = a - bQ$  ( $P$  is market price,  $Q$  is quantity of sales), production costs of each copy equal  $c$ . Each consumer purchases only one copy of the product. We assume also that consumers can make a difference between legal and counterfeit copies but only a limited number  $N$  of consumers can switch between these two segments (i.e. legal and counterfeit goods are substitutes only for  $N$  consumers). The other consumers will always buy legal copies.

Table 1 represents four possible situations.

**A. Situation 1: Intellectual property rights are effectively (not just on paper) protected and antitrust policy is present**

In this case, the seller’s price will be established on the basis of economic costs (they form a “price ceiling,” and a rational entrepreneur will fix prices at the level of this ceiling). The price of a copy will equal  $P_I$ , and quantity sold by an entrepreneur will equal  $Q_I$ , in such a manner that

$$P_I = c + \frac{X}{Q_I}$$

where  $X$  is a value of initial costs of elaboration in the “zero” period.

The advantages of this situation are expressed in a relatively low level of market price. It will exceed the competitive price by a value of the investment component  $\frac{X}{Q_I}$ . This component is positive, but the final level of market price in Situation I will not reach the monopoly price or exceed it (indeed, the opposite would mean that even the permission for establishing a monopoly will not guarantee the payback of the project). Correspondingly, the quantity of sales generally

<sup>26</sup> In practice these prices may be determined using the information on comparable markets. But that may be difficult for absolutely new markets.



will be lower than the competitive output but higher than the monopoly output.<sup>27</sup> If the value of sales is considerably higher than the initial investment then deadweight losses will be modest. But the profitability of the producer will be limited although the guaranteed level of book profit (excluding the case of prohibitively high initial costs) will assure the implementation of the project and the creation of the intellectual property object.

### ***B. Situation 2: Intellectual property rights are protected, antitrust policy is absent***

In this situation the entrepreneur will act as a monopolist, price  $P_{II}$  and quantity  $Q_{II}$  will be equal to the monopoly level:

$$P_{II} = \frac{a + c}{2}; Q_{II} = \frac{a - c}{2b}$$

The profit of the entrepreneur will be:

$$\Pi_{II} = \frac{(a - c)^2}{4b} - X$$

The advantage of this situation is expressed in the higher level of the entrepreneur's profit. Consequently, he will have stronger incentives to create intellectual property object.<sup>28</sup> However, the project may not be implemented; necessary preliminary investments in the "zero" period will be too high. But unprofitability, even in the case of monopolization, means the inefficiency of the project *a priori* (at least, in terms of private costs and benefits), so the failure of such a project will not bring losses to the social welfare.

Monopoly is the main shortcoming of the Situation 2. Obviously, it will lead to considerable overpricing and lower quantities of output.

### ***C. Situation 3: Intellectual property rights are NOT protected, antitrust policy is present***

In Situation 3 pirates enter the market in the first period. They do not pay to create the intellectual property object; entry barriers for them (in this case of an absence of intellectual property protection) are negligible; they actively compete among themselves. Besides, they cannot, according to the model assumptions, pass off their copies as legal. Under such conditions they supply copies at a price  $c$ , equal to their marginal costs.

At the same time the antitrust authority does not take into account the market share of pirates while analyzing the market to provide price regulations. First, pirates' operations cannot be quantified precisely. Second, the state body responsible for the protection of competition should avoid the recognition of pirates' operations because, as a general rule, illegal sales are outside the legal framework and, consequently, they cannot be used in decision-making by state authorities. Here the conflict between legal regulations and the real state of affairs may be the most noticeable.

Then the fixed price will be equal to the price ceiling from Situation 1:

<sup>27</sup> To simplify, we do not present here detailed formula of prices and quantities.

<sup>28</sup> It is important to note that there are models proving that, under certain conditions, companies-competitors may have stronger incentives to innovate in comparison to monopolists. But in our example we consider the case of a new market creation.

$$P_I = c + \frac{X}{Q_I}$$

But the real quantity of sales  $Q_{III}$  will be lower because of pirates' market share. The price of pirates' copies is *a priori* lower in comparison with legal copies. As a result, those consumers, who are ready to switch to counterfeit copies, will do so. According to the above-mentioned assumption, pirates' quantity of sales is fixed, it equals  $N$ . That is why the entrepreneur will only sell  $Q_{III} = Q_I - N$  (see graph 1) at a fixed price  $P_I$ , while pirates will produce and sell  $N$  copies at a price  $c$ .

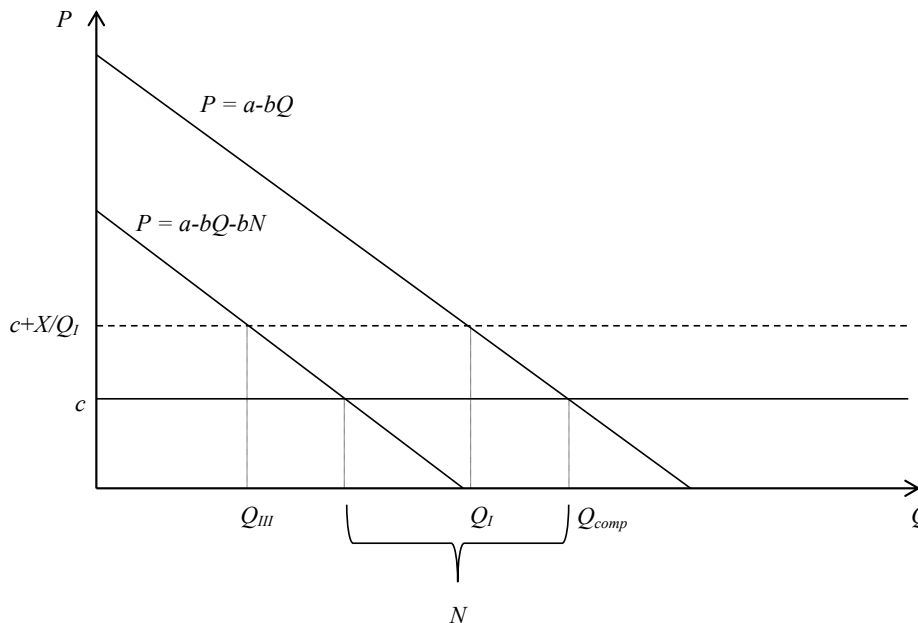
If the entrepreneur does not have information on the scope of piracy, he will make his decision on quantities produced with respect to market demand, the real quantity produced by him will be  $Q_I$ , and the excess of goods produced (crowded out by pirates) will not be sold. Then the economic profit of the entrepreneur will be specified by the following expression

$$\pi_{III}^{(A)} = \left(c + \frac{X}{Q_I}\right)Q_{III} - X - cQ_I = c(Q_{III} - Q_I) + X\left(\frac{Q_{III}}{Q_I} - 1\right) < 0$$

If the entrepreneur can assess a scope of piracy  $N$ , his quantity produced will equal his real sales  $Q_{III}$ . But in this case his economic profit will also be negative:

$$\pi_{III}^{(B)} = \left(c + \frac{X}{Q_I}\right)\pi_{III}^{(B)} = \left(c + \frac{X}{Q_I}\right)Q_{III} - X - cQ_{III} = X\left(\frac{Q_{III}}{Q_I} - 1\right) < 0$$

**Graph 1: Situation 3—Prices and quantities of the entrepreneur and pirates**



Situation 3 is considered to be the worst from a social welfare point of view. At first sight, it seems that things are not so bad: total quantity of copies sold reaches  $Q_I$ , as in Situation 1 (with good protection of property rights and the effective antitrust policy), and the existence of pirates

leads to the lowering of prices for certain consumers and, consequently, to the partial redistribution of surpluses in favor of consumers.

But in Situation 3 the entrepreneur suffers losses summarizing the results of two periods (“zero” and “first”). Consequently, he loses any incentives to invest in the “zero” period. As a result, the object of intellectual property will not be produced at all, and a discussion of profits, prices, and quantities has no sense in the absence of the market.

#### ***D. Situation 4: Intellectual property rights are NOT protected, antitrust policy is absent***

In Situation 4 the entrepreneur will also share the market with pirates. But the absence of antitrust regulation (in fact, price regulation in the model) will give him an opportunity to remain a monopolist on a residual demand. It is specified by the following equation:

$$P = a - bN - bQ$$

In this situation pirates will sell  $N$  copies at a price  $c$ , as in the previous case. The quantity of the entrepreneur’s sales, his price, and profit will be expressed by the following expressions:

$$Q_{IV} = \frac{a - c}{2b} - \frac{N}{2}; P_{IV} = \frac{a + c}{2} - \frac{bN}{2}; \Pi_{IV} = \frac{(a - c - bN)^2}{4b} - X$$

Situation 4, despite a seemingly low level of institutional development, can lead to favorable consequences. Total volume of market sales will be:

$$Q_{IV} + N = \frac{a - c}{2b} + \frac{N}{2}$$

This quantity is less than the competitive level,<sup>29</sup> but it exceeds the production of a monopolist. Market demand is partially satisfied by pirates at a competitive price, and the price of the entrepreneur, who acts as a monopolist on the residual demand, is higher as compared to the competitive level but lower than the monopoly level. Finally, the profit of the entrepreneur may be positive or negative depending on the value of the initial investment. As in Situation 2, it may be concluded that an *a priori* inefficient project will not be implemented, but the criteria of efficiency in the Situation 4 will be stricter because the profit of the entrepreneur in the “first” period is less than the monopoly profit.

Therefore, each of the situations described has its benefits and shortcomings. They may be briefly described as follows:

In Situation 1 market equilibrium may be pretty close to the competitive state. At the same time, risks for the entrepreneur are modest but his profitability is at a low level, corresponding to zero economic profit (summarizing for two periods). In Situation 2 market equilibrium will be equivalent to the equilibrium of a monopoly. This will negatively affect consumers’ surplus, the entrepreneur will bear low risks, and his profitability will be maximized. In Situation 4 parameters of market equilibrium will range between competitive and monopoly levels; as in Situation 1, risks of the entrepreneur will be high but he will have a chance to obtain positive economic profit. Situation 3 is the most problematic from the point of view of social

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<sup>29</sup> Of course if pirates are unable to satisfy all the market demand, i.e.  $N < \frac{a-c}{b}$

welfare: the economic profit of the entrepreneur will be negative, investments will not be made, and the market itself will never be created.

This summary presents a question: How can the economy (the market) move from the Situation 3 to any other situation? From our point of view, there are three alternative solutions:

**A. Solution 1: To provide protection for intellectual property**

The implementation of this solution permits a move from Situation 3 to a more favorable Situation 1,<sup>30</sup> which corresponds to the high standards of institutional environment in developed economies. But providing intellectual property rights protection involves considerable costs and is a long-term process, especially for those developing economies that have significant problems with property rights protection in general. In particular, difficulties with property rights protection are typical for countries rich in natural resources.<sup>31</sup> Consequently, solution 1 may be a priority in the long term but it can hardly be realized in the short term.

**B. Solution 2: To avoid qualifying the entrepreneur as a monopolist when producing and selling intellectual property objects and to drop price regulations**

Realizing Solution 2 will permit a move from Situation 3 to a more favorable Situation 4. In fact, there is no retreat from the antitrust policy as a whole. There is only the recognition of competition from pirates, which automatically leads to the change of qualification of the entrepreneur's market position. This solution is less costly but it can confront principle and well-grounded (according assumptions used) objections from the antitrust authorities.

**C. Solution 3: To take into account the real market share of the entrepreneur with respect to the existence of piracy**

In this case Situation 3 is nominally conserved but, in fact, it is considerably modified. Recognition of significant pirates' sales by an antitrust authority means (in terms of the model) the recognition that real sales of the entrepreneur are limited. That is why the entrepreneur needs to adjust prices upwards to cover fixed costs (initial investments). In this case the entrepreneur will obtain zero economic profit (and normal book profit). As in Situation 1 it will give him an opportunity to make initial investments under low risk and low profitability. But, in comparison to Situation 1, market supply will be lower, and the entrepreneurs' prices will be higher. However, pirates will sell their illegal copies at a low, competitive price, which will weaken the pressure on consumers' surplus.

In the short- and mid-term timelines, Solutions 2 and 3 seem to be more realistic. Both require recognizing counterfeit sales as significant factors affecting the regime of antitrust law implementation. It means that the choice of an optimal regime of antitrust policy depends on the established characteristics of property (in this case, intellectual property) rights protection.

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<sup>30</sup> Or to the Situation 2, which is less probable because the sense of refusal from antitrust policy is not obvious in the case of strong protection of intellectual property rights.

<sup>31</sup> Тамбовцев В., Валитова Л. Ресурсная обеспеченность страны и её политико-экономические последствия, 3 Экономическая политика 18-31 (2007). (V. Tambovtsev & L. Valitova, *Country's resource abundance and its political and economic consequences*, 3 Econ. Pol'y 18-31 (2007).

If intellectual property rights are poorly protected, and it is impossible to rapidly strengthen this protection, then the implementation of antitrust regulations without taking into account counterfeit production may have strong negative consequences on intellectual property investments. A comprehensive implementation of such legalistic measures in markets without attention to their real features may lead to the suppression of innovative and investment activities.

Undoubtedly, this model has a number of restrictions and cannot be directly applied to real markets but it represents a useful analytical framework in which to form socially efficient antitrust policy.

## **CONCLUSION**

The search for balance between antitrust policy and intellectual property protection is a matter of high importance for the modern economy. Technological progress is very fast and legal framework often lags behind it. At the same time, the need to stimulate further technological development emphasizes the importance of market structures in innovative areas.

Many researchers show that, despite the presence of common goals, the implementation of antitrust policy may come into conflict with methods of intellectual property protection, and vice versa. Sometimes the interaction may be more difficult, which is confirmed by the model presented in this article. And sometimes the optimal combination of antitrust instruments and intellectual property rights protection policies may change, depending on specific economic circumstances.

One specific and important case is the interaction of antitrust policy and intellectual property, under conditions of poor property rights protection, and weak mechanisms of law enforcement. In this case there is the need to take into account counterfeit production when assessing market competition before applying antitrust measures (first of all, sanctions). Counterfeit production is dangerous for the innovation process by itself. But its negative effects may be multiplied if counterfeit production is not recognized by antitrust authorities.

The implementation of antitrust policy under such conditions requires additional attention towards established factors of the institutional environment, the real strength of intellectual property rights protection, and the real conditions under which firms function. Otherwise, innovative and investment processes will slow down.