Using Remedies in the Russian Merger Control

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Abstract

This paper is aimed to assess using remedies during the previous five years. In the first part of this paper we characterize the changing of the Russian merger policy for this period and analyze the content of imposed conditions. In the second part of the research we build and empirically evaluate a discrete choice model of merger remedies as a basis for policy analysis. The database consists of 343 concentrations cases accepted by the Federal Antimonopoly Service between 2007 and 2011. We focus on the following question: Which merging firms' and markets' characteristics lead the authority to decide whether to require conditional acceptance?

Keywords: Merger Control, Behavioral and Structural Remedies, Discrete Choice Models/
JEL classification: K21, L40, D78

Introduction

In recent years the importance of the competition policy in Russia has significantly increased. This tendency reveals itself, in the first place, in the increased influence on economic agents' behavior. The major prerequisites of such situation are, on the one hand, the drastic changes that the antitrust legislation underwent in 2006, and on the other hand, the increased activity of the Russian national competition authority – the Federal Antimonopoly Service (FAS). Recent years have seen a lot of headline-making antimonopoly cases that have attracted public attention. This can be the evidence of the increased government and public «demand» for antimonopoly measures. In its turn, it can increase the effectiveness of the Russian competition policy.

The merger control is one of the traditional and important parts of the competition policy. Mergers are major means of restructuring, potentially allowing a more efficient allocation of resources. As it is known, potentially not only producers, but consumers can gain from mergers. However, mergers may also dampen the competitive process by reducing the number of effective competitors, by reducing the incentives to innovate, by impeding entry (Motta, 2004). Effective merger regulation is the essential ex ante means of filtering merger proposals so that efficient ones are allowed while anticompetitive ones are not. According B.Lyons (2008) merger control

is a powerful signal to firms contemplating transactions and they modify their proposals in anticipation of the merger regime. This is why the underlying logic for each intervention is vital.

The aim of this paper is to characterize the changing of the Russian merger policy for the previous 5 years (after adoption of a new competition law) and assess using remedies during this period. It seems important to look into the motives of the antitrust authority's criteria and find answer to a question: Does the authority decide in accordance with general economic principles and IO theory? It could become the basis to draw up recommendations on how particular norms and practices can be improved.

The first section of the paper 1) deals with the assessment of the changes concerning merger control that Russian competition policy underwent in 2005-2009; 2) gives the analysis of remedies used by Federal Antimonopoly Service during 2007-2010. We try to answer the following questions: What remedies are used? To what extent does the implementation of merger remedies in Russia comply with the international practice? Does implementation of merger remedies encourage the merging companies to reestablish the broken competitive conditions?

The second section provides the more technical analysis of the implementation of merger remedies by the Russian antimonopoly authorities. We build and empirically evaluate a discrete choice model of merger remedies as a basis for policy analysis. The database consists of 343 merger cases accepted by the FAS between 2007 and 2011. We focus on the following question: Which merger's characteristics (participants or market) lead the FAS to decide whether to require conditional acceptance?

1.Merger control in Russia: changing model of regulation

The first section of the paper deals with the assessment of the changes concerning merger control that Russian competition policy underwent, and the risks and opportunities that can arise due to these changes. Avdasheva et all. (2011) analyzed development and implementation of antitrust legislation in Russia and among other things discussed the results of the Russian merger control model. This study provides the more detailed analysis and focuses on using remedies under new merger control regime.

What concentrations should we control? "Size" is important

In Russia merger control[1] in product market has become one of the ongoing issues of competition policy since the first antimonopoly law was adopted in 1991[2]. In Russia this law (as well as many other laws necessary to create the institutional infrastructure of the market economy) was «borrowed», i.e. created mainly on the basis of European competition laws; and it

[1] The Russian competition policy uses a more general term «concentrations» to imply «mergers»

[2] Article17 and article 18 of Section V of the Federal Law of the Russian Federation «Om competition and Limitation of Monopolistic activity in Commodity Markets» constitute the legal basis of merger control.

was further developed and enforced within the transition period in the Russian economy. That is why Chapters 17 and 18 of Section V (that comprise the legislative basis of the merger control) were amended almost in every statutory wording of the Federal Law of the Russian Federation «On competition …» since 1991. The improvement of the merger control mechanism was determined by the change in its constituents: the procedure of applying to the antimonopoly authorities, the selection criteria of mergers liable to the control, the threshold value of this parameter, the period of petition and notification examination, etc. However, the wordings of 1995 and 2002 can be considered as real turning points.

After the Federal Law «On protection of competition» was adopted in 2006, the rules of concentration control changed greatly. It marked the beginning of a new stage of government regulation in this sphere. It is worth mentioning that the definition of concentrations was given for the first time, although the following two changes are even more significant:

1) shortening of the list of concentrations that are subject to the preliminary control (for example, nonprofit organizations mergers or redistribution of shares within a group of stakeholders). As a result, the antimonopoly authorities do not have to consider the concentrations that do not have any impact on the redistribution of control inside the company as an economic agent (as opposed to the company as a legal entity);

2) another increase of the threshold value of the preliminary control (of the transaction volume). Until 2002 the preliminary appraisal was compulsory for the companies with the book value of more than 10 million rubles (about $350 000). It is obvious that companies that were not able to have any significant impact on competition were subject to the preliminary control. Though the threshold value increased again in October 2002 and later in February 2005, these were insufficient changes – the sphere of the implementation of competition policy was too broadly defined. To exemplify this, we can say that the number of merger petitions and notifications in 2002-2004 in Russia reached more than 20000 a year, whereas in EU this number was 250-350, and 1000-2000 in the USA.

So broadly defined control did not make any sense from the economic point of view. Besides, it led to increased costs (for both antimonopoly authorities and companies) and lower efficiency of antimonopoly authorities (in most mergers the control was rather formal and was reduced to mere checking on whether the submitted documents met legal requirements).

In 2009 after the law was amended, the threshold was increased again. These changes led to a significant decrease in the number of mergers to be considered (see Table 1) and allowed antimonopoly authorities to focus on the economic analysis of merger effects.

Table 1.

Merger Appraisal in Russia (2007-2011)*

Year	Cases submitted (previous control)	Prohibitions
2007	6097	90
2008	5821	141
2009	4160	106
2010	2964	58
2011	3282**	unknown

*Source: FAS of the RF, Competition Police Annual Reports; web resource: www.fas.gov.ru

** Source: FAS: 2011 Annual Report of FAS Head I.Artemiev, web resource: www.fas.gov.ru

The increase of the threshold and the decrease in the number of mergers liable to the control are undoubtedly a necessary prerequisite for the higher merger control effectiveness in Russia. However, the analysis of merger control policies in Europe and the USA reveals that their effectiveness is determined by two constituents: taking into account efficiencies of the merger and using merger remedies. In next section we will consider the changes of legislative base for remedies implementation.

The evolution of the legal framework of implementation of merger remedies

For the first eleven years of the first antimonopoly law operation (since 1991 to 2002[3]) antimonopoly authorities were given no legal opportunity to set requirements to offset the adverse impact mergers could have on competition. Since the end of 2002 the Russian antimonopoly authorities technically got the opportunity to set requirements[4] – to impose remedies – in the process of merger control. Yet, they could only be guided by rather a vague condition (see Item 4 and Item 5 of Articles 17 and Article 18 respectively) that the requirements should state the actions aimed to «provide effective competition». Neither the law nor any other regulatory document (like ECMR in EU) provided the explanation of what these actions might be. That is why this regulation tool was used spontaneously. According to some experts' interviews, the implementation of this tool in the legislative practice was precedent-related, and the extent to which it was used was dependent on how well the head of a regional FAS office or an employee in charge of this area of work understood the economic nature of the processes taking place in different markets.

[3]Item 3 of article 17 in 1995 wording mentions the possibility to set requirements aimed to provide competition. They were implemented in some cases, and can be considered as prototypes of merger remedies.

4 These opportunities were provided by item 4 of the Federal Law N 122-FZ of 09.10.2002

In the new Federal Law «On protection of competition» there is a list of conditions and requirements to merging firms, which FAS could use as remedies. Divestitures are mentioned in that list too as a possible requirement. Thus, the legal basis for the use of structural remedies was established only at the end of 2006.

On the one hand, the wordings of regulatory norms and decision making criteria, enshrined in the new competition law, are a great advance. However, we should note that the wordings used in the Federal Law of the Russian Federation «On protection of competition» are not as thoroughly worked out as those of European competition policy, which for a number of reasons is the most often used model for the Russian antimonopoly laws. Russian provisions of the law have two serious drawbacks: vague wordings (or lack of normative documents, which explain criteria and procedures of assessment) and insufficient compliance with the modern economic theory. The vagueness of the wordings and lack of unambiguous criteria of comparison lead to a great number of interpretations which, in its turn, makes the law «precedent-related». It can result either from the law maker's desire to provide a more general wording to avoid mistakes when the mergers that are beneficial for the society are rejected or from the lobbying of the interest of some groups. In the first case the problem can be solved if certain methods are worked out and recommendations are drawn up so that both antimonopoly authorities and merging companies can follow them. According to Western experts, creation of such methods in the USA and the EU has allowed to make the decision making process more transparent and to reduce the number of arguable situations and, consequently, transaction and direct costs of merger control.

Implementation merger remedies in Russia: what requirements we are choosing?

As we have mentioned above, remedial conditions have been used in Russian merger control since 2002. Up to the present moment Russian antimonopoly authorities mainly use behavioral requirements while competition and antitrust authorities in Europe and the USA rely on structural conditions. Below we give the general characteristic of remedies' implementation in Russian merger control and then try to give assessment of current practice.

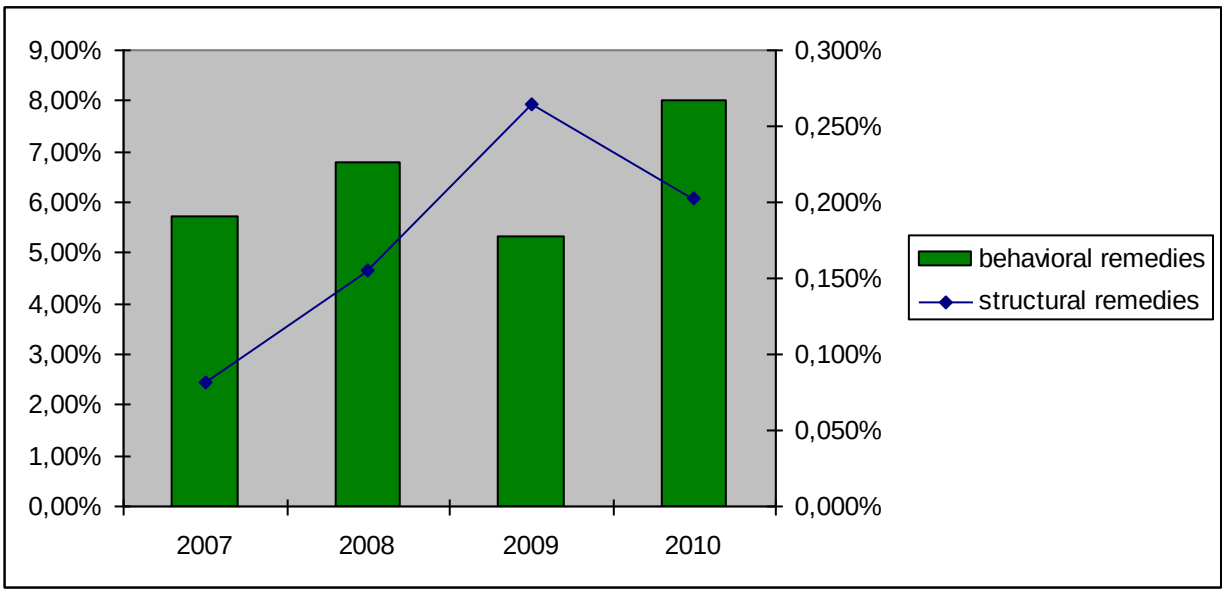

Figure 1. Remedies in Russian Merger Control (2007 – 2010)*

*Drawn up by the author, the source: FAS of the RF, Competition Police Annual Reports; web resource: www.fas.gov.ru .

The proportion of the merger reviewed and approved with conditions by the Federal Antimonopoly Service (FAS) of the Russian Federation increased slightly since 2007 till 2010 (from 5,9% to 8,3% respectively) (see Figure 1). Although in 2009 and 2010 the number of requirements decreased in absolute terms (compare with 2007 and 2008), which resulted from the reduction in the number of the mergers under consideration and could be explained by the changing of control parameters.

We have created the data base for the period of 2007-2010 that includes the information on 332 appraised mergers. These mergers meet the requirements published on the official web-site of the FAS.

To investigate the sectoral structure of mergers for which the requirements were imposed, we have systemized the data for the same period. More than a half of the mergers fall on housing and public utilities sector (28,9%) and engineering industry (24,8%), next 40% account for construction materials industry (16,1%), fuel and energy sector (13,3%) and metallurgy (11,5%).

In general, the investigated sectoral structure of mergers for which the requirements were set, corresponds the sectoral structure with the most active integration processes in the Russian economy in 2007–2010. In other words, our analysis does not reveal any «structural» preferences that antimonopoly authorities can have when setting the requirements.

The analysis of merger remedies content

Of the greatest interest is to analyze the essence of the remedies, i.e requirements and conditions imposed by the FAS sets in order to prevent negative impact mergers can have in

competition. We will also discuss the changes that these remedies underwent in the period of 2007 – 2010.

As we have shown above (see Figure 1), unlike competition and antitrust authorities in developed countries (in the USA and the EU), the Russian antimonopoly authorities tend to use behavioral remedies, i.e. they set constraints on the merged firms' behavior and their property rights. Structural remedies were not used at all until the end of 2006 and we could not find detailed information (written decisions) about structural remedies in 2007. In 2008 the FAS imposed 9 requirements that contained provisions on changing the structure of merging firms (6,9% of the total number of requirements set in 2008), 5 from 9 were published on the FAS web-site. It should be noted that the possibility to use structural remedies provided by the new antimonopoly law, has not become «dormant». Such decisions can be considered as an emblematic evidence of enlargement of remedies used in the process of merger control in Russia. Yet, it would be too early to discuss changes in the approach to use of remedies – there were only 11 (2 of them were published) such conditions in 2009 and 7 – in 2010 (6 were published). The requirements of either entire or partial divestiture of the business is obviously a more serious intervention into the market. Changes in the competition policy only are not enough to make this tool more effective: certain changes of the institutional environment should take place and there should be «demand» for deep intervention. So much more interesting is to discuss those mergers on which structural requirements were imposed for the first time in Russia. We can consider 13 published structural requirements. Three of those mergers took place in the communication service market, one merger – in the insurance service market, one – in transport sector and eight mergers – in the fuel and energy sector. Almost in all transaction the buyers were holding companies (for instance, ZAO «KES», SINERON HOLDINGS LIMITED, OAO «AFK «Sistema», OAO «MTS») that specialize in assets management in one particular market or in one particular sphere. Besides, almost all the markets mentioned above are: 1) fairly homogeneous, which allows antimonopoly authorities to estimate the potential increase in their monopolistic power; 2) oligopolistic, it is possible to look for an acquirer of divested assets. The mergers and the acquirers in such markets are the most convenient objects of imposing structural remedies.

Let us briefly characterize the “traditional” Russian practice of implementing remedies, i.e. behavioral requirements. To do this we have summarized the character of the requirements disclosed by the FAS. Though before the new antimonopoly law was adopted (October 2006) Russian antimonopoly authorities set certain behavioral requirements, their decisions on whether appraise a merger or not, did not have to be disclosed to public. This accounts for the fact that almost all «before the new law» data that we collected refers to 2006, whereas the information

for the earlier years (2004 and 2005) (remedy 1 and 2 respectively) is not sufficient enough to perform a valid comparison and conclude about changes in the character and tenor of the requirements or any new tendencies. However, we can suppose that publishing information about all requirements on the official web-site of the FAS of the Russian Federation has resulted in higher quality and standardization of the requirements imposed by antimonopoly authorities. Leaping ahead, we should note that it also increases the effectiveness of behavioral remedies because information costs decrease and control over the fulfillment of requirements can be performed.

Table 2.

Behavioral remedies in Russian Merger Control (2007 – 2010)*

№	Type	%
1	Price cap and fixing price	11%
2	Non-discrimination behavior requirements	28%
3	Business terms control	39%
4	Information remedies	22%

*Drawn up by the author, the source: information on merger decisions from the official web-site of the FAS of the RF; web resource: www.fas.gov.ru .

We can use the character of merger appraisal conditions as a criterion to classify the behavioral requirements (remedies) into 17 types. These types, in their turn, can be united into 4 larger groups (see table 2): 1) price remedies; 2) non-discrimination behavior remedies; 3) business terms control (for instance, different requirements concerning non-abusive behavior); 4) information remedies.

Now we will evaluate the character of the requirements that were imposed in this period. It should be noted that non-discrimination behavior requirements play a significant role in merger control. It would be logical to assume that such requirements are absolutely correct from the economic point of view. On the other hand, they do not need to be imposed as remedies since such requirements are specified by the general provisions of competition policy. In this respect, it is hard to interpret the clauses on non-discrimination behavior as behavioral requirements imposed on merging companies. If the ability to reestablish the broken competitive conditions is to be considered an effectiveness criterion, then such conditions are unlikely to be effective. Their economic role is not to adjust the situation in the market after the merger takes place, but to maintain the company's bona fide operation in the market which is especially important when we deal with natural monopolies (power industry or housing and public utilities sector).

From the point of view of our analysis the requirements of non-abusive behavior is of a much greater interest. In general, they can be divided into those that prohibit companies to reduce the volume of production, and those that prevent monopolistic price rise. To prescribe what price to set or how much to produce would breach the law of supply and demand, which in turn could aggravate market failure after the merger has taken place. So this tool of merger control is unlikely to be suitable for the effective redistribution of resources in the market. Besides, we can also assume that price and output control would be not able to reestablish the broken competitive conditions (which is necessary for the requirement). First, because of price and output control economic effectiveness would diminish during recessions. A natural reaction of companies to «market contraction» – reduction of the output – would be impossible due the requirements set by the FAS, and thus the companies would have to incur risks. This market mechanism suppression was somewhat lessened after 2007, because the unconditional prohibition to reduce output gave way to the requirement to prevent economically unjustified reduction of volume of production. This is the evidence of the fact that the FAS allows reducing company's turnover if such measures are justified from the economic point of view. However, it can considerably increase antimonopoly authorities' transaction costs when they have to decide whether the output reduction is justified. We can predict that the merged companies because they are more aware of the current situation in the market and of the production process characteristics, can make an effort and justify the necessity to reduce their output.

It is also important to understand what adverse effects price control can have. The merged companies want to get higher profit and setting a price cap can only impede but not suppress their willingness to get a profit which above normal. The possibility to get extra profit can be realized through unjustified reduction of costs to the detriment of product quality, which damages the interests of consumers who, in monopolistic environment, are not able to switch to a different producer. Solution to the problem of diminishing effectiveness of the remedies requires that antimonopoly authorities should bear monitoring costs: the product quality control is a complex process. So the problem of diminishing effectiveness of the requirements is aggravated. Yet, in recent years (since 2008) the problem of price control after the merger takes place was somewhat alleviated. Before 2008 antimonopoly authorities set an absolute price threshold (for example, «no more than 10% a quarter»), but since 2008 the practice of imposing relative threshold was introduced. It is based on the market or industry weighted average price (for example, «no more than 10% a quarter with regard to weighted average price). Thus, the situation in the market is taken into account while retaining price control. However, if the merger has made the market highly monopolized, the weighted average price adjustment is unlikely to improve the situation.

The analysis of the requirements set for 5 previous years clearly demonstrates the lack of effectiveness of the tools used by the FAS. Its intervention into mergers is reduced to implementing behavioral remedies basically, which can lead to ambiguous results (as mentioned above). Furthermore, behavioral remedies generate high monitoring costs in ex post period or if such control is not carried out, do not "fulfill" their economic function with high probability.

2. *Modeling the merger remedy process*

The starting point of the study

The antitrust agency has to examine a number of economic issues, when it decides whether a proposed transaction is likely to lessen competition substantially. In such cases there is the well-known tradeoff between market power and efficiency gain and the protection of consumers' interests. (This fact makes the work of an antitrust agency especially difficult and resulted it the appearance of remedies as a regulation tool.) This section overviews the main studies, which our paper follows.

There exist only a few examples of research combining the positive analysis and quantitative methods to study authorities' decisions. Seemingly the first attempt to assess the efficiency of a competition authority was well-known work of R.Posner (1970). The author studied the correlation between business cycles and the number of competition cases at the US Department of Justice (US DOJ). He found some significant positively-correlated variables such as the GDP and the authority budget and the only negatively-correlated variable - the "war period". More recent studies have followed Posner's work and developed statistical (later – econometrical) approach.

According to P.Bougette and S.Turolla (2006) all economics studies which attempted to evaluate the accuracy of antitrust agency decisions could be divided into three different groups: 1) cost-benefit analysis; 2) event study approach; 3) the discrete choice approach.

Within the bounds of the last approach econometrics and discrete choice modeling are used to assess antitrust cases decisions, it allows researcher to take into account a large range of economic variables and to test their significance.

Coate et al. (1992) deal with 70 merger cases handled by the US Federal Trade Commission (FTC) between 1982 and 1987. The authors estimated a probit model, four explanatory variables were used in the regression: level of concentration (in terms of the Herfindahl index) and three dummy variables – barriers to entry, the risk of collusion, and the existence of efficiency gains (they mentioned as significant in the U.S. Merger Guidelines). They found that efficiency considerations over the period did not affect the authority's decision to accept or block a merger. Also they showed that political pressure from Congress was a significant factor. Khemani and

Shapiro (1993) made the similar work but looked at Canadian mergers data. Market shares and concentration were found as the most important factors, the level of entry barriers and competition from imports remained less significant. Weir (1992, 1993) studied the merger decisions in the UK using a probit model, too. He found that post-merger market shares did not appear to influence the authority's decision making process but that the Monopolies and Merger Commission (MMC) was less likely to allow hostile takeovers.

Our paper follows two studies of European antitrust authorities' decisions: Bergman et al. (2005) and Bougette and Turolla (2007). In the former Bergman et al. estimated a logit model using a sample of 96 merger cases between 1990 and 2004 (after sampling and removing incomplete data). The dependant variable is the type of decision: accepted or rejected merger. The authors found that the probability of a prohibition of the merger and of a phase-II request increases with the parties' market shares. The probability also depends positively both on barriers to entry and the situation when the European Commission (EC) finds that the post-merger market structure is facilitating to collusion. Barriers to entry appear to be strongly significant (at 1 % level). Sectors are relevant too (water and construction). The authors did not find significant effects of "political" variables, such as the nationality of the merging firms.

Bougette and Turolla (2007) evaluated a multinomial logit model of merger remedies. They used sample consisting of 229 merger cases accepted in Phase I or Phase II of the European merger process between 1990 and 2005 and tried to answer the question: Which merging firms' characteristics lead the European Commission to decide whether to require conditional acceptance? The authors differentiate structural and behavioral remedies, another original feature of this study is to explore determinanting factors of the authority's decisions with a neural network model differentiating cases accepted with or without remedies (either structural or behavioral). They found that variables related to high market power lead more frequently to a remedy outcome, whatever the phase. Sectors are relevant for behavioral remedy. Innovative industries such as energy, transportation and communications positively affect the probability of such requirements. Lastly, "political" factor (Competition Commissioner) appeared significant.

Database

During the five years from January 2007 through December 2011, the Federal Antimonopoly Service (FAS) received more than 22000 concentration (merger) notifications. The number of notifications per year decreased from more than 6000 in 2007 to about 3000 during the last couple of years. From 1,5% to 2,5% of the authority's decisions have been prohibitions in the

formal sense (about 400 in total as of December 2010[5]). At the same time the part of remedies varies from 5,5% to 8% (see Table 1).

Some of the decisions of FAS are published on the web-site[6], their number increased from 126 (approximately 2% from population in 2007) to 1514 (46%) in 2011. We use the FAS's online resources to collect the most part of the data for our research. Taking into account our initial objective – studying merger remedies – we focus only on the accepted cases (with and without remedies).

Table 3.

Case population and net sample (2007-2011)

	Population	Sample
Number of notified cases	**22324**	
Number of refused cases	Approx. **450**	
Number of accepted cases	Approx. **21900**	**343**
- accepted without remedy	Approx. **20400**	**40**
- accepted with remedies	**1463**	**303**

Detailed information was available for 303 of the remedies. Consequently, the sample consists of 40 accepted cases without remedies and 303 cases with remedies. Overall, 11,7% of remedies were structural, 88,3% were behavioral. The behavioral conditioning of merger project prevails over the structure ones in the whole population (see Table 4).

Table 4.

Types of remedies analyzed (2007-2011)

	Remedies in population (%)	Remedies in sample
Structural	**0,2%**	**18**
Behavorial	**8%**	**285**
Total		**303**

If notified merger affects more than one relevant market (both product-wise and geographically), we deal with one relevant market per case only (as Bergman et al., 2006, Bougette and Turolla, 2006). The choice of that market depends on the potential anticompetitive concern and we focus on the most problematic (narrowest) relevant market. Due to secret business considerations, market shares are not easily available, we use 25% range dummy variables to collect them

[5] Precise number of rejections in 2011 is unpublished in that moment
[6] See: http://www.fas.gov.ru/solutions/

(Bougette and Turolla, 2006). We also create dummy variables to code sector information (see table 5 in Appendix). Other repressor variables are listed below.

Regressors used in the model

Acquid1: 1 if the acquired firm's market share range is [0, 25%], 0 else.

Acquid2: 1 if the acquired firm's market share range is [25%, 50%], 0 else.

Acquid3: 1 if the acquired firm's market share range is [50%, 75%], 0 else.

Acquid4: 1 if the acquired firm's market share range is [75%, 100%], 0 else.

Acquir1: 1 if the acquirer's market share range is [0, 25% [, 0 else].

Acquir2: 1 if the acquirer firm's market share range is [25%, 50%], 0 else.

Acquir3: 1 if the acquirer firm's market share range is [50%, 75%], 0 else.

Acquir4: 1 if the acquirer firm's market share range is [75%, 100%], 0 else.

Since the exact figures of market share are often confidential, we have used different information sources:

- texts of decisions and prescriptions of FAS;
- list of business entities, with a market share exceeding 35% (available on the FAS website);
- other open resources, such as analytical reviews and articles devoted to the individual industries and companies websites.

Bnshares: a dummy variable taking the value of 1 if subject of the transaction is not a purchase of shares or a stake in the company.

Crew-d: 1 if the acquired consists of several firms, 0 else. This variable can reflect some bargaining power.

Crew-r: 1 if the acquirer consists of several firms, 0 else. This variable can reflect some bargaining power.

Entry: 1 if entry barriers are significant, 0 else.

(Bergman et al., 2006), (Bougette and Turolla, 2006) define Entry as dummy variable taking the value of 1 if entry considerations are claimed in the Commission's decision. We would like to follow the same approach and transform the information contained in the written decisions of FAS into a dummy variable, but we faced with the problem – the texts of FAS decision are more "poor" in terms of economically significant information than written decisions of EC. We have to construct an instrument for entry barriers. Following Sutton (1991), we used industry averages assets as a fraction of sales (information was obtained from the FIRA database), in an attempt to measure entry barriers independently.

Fcountry: if the acquirer's headquarters are located in foreign country, 0 else.

Hmerger: 1 for a horizontal merger, 0 else.

Inter-d: 1 if the acquired firm's is an international holding, 0 else.

Inter-r: 1 if the acquirer is an international holding, 0 else.

Kipr: 1 if the headquarters of acquirer or acquired firm are registered in Cyprus, the Bermudas etc., 0 else.

Privface: 1 if the buyer is an individual, 0 else

SameROrner: participants of the transaction actually belong to the same structure ("group of persons")

Simdeal: a dummy variable taking the value of 1 if one firm buys several companies.

Vmerger: 1 for a vertical merger, 0 else.

World: 1 if the merger involves a world leader firm, 0 else.

The multinomial logit model

The general specification of model is represented by the following equation for probability of choosing an alternative *j* among *m*[7]:

$$\Pr(y_i = j) = \frac{e^{x_i \beta_j}}{1 + \sum_{k=1}^{m} e^{x_i \beta_k}}, \quad \forall j = 1,2,\ldots m.$$

where *x* represents a vector of covariates, such as merging firms' characteristics (for instance market shares) and various market indicators (sector, barriers to entry, etc.). β is the respective coefficient vector. The authority will choose an alternative that maximizes utility: $U_{ij} = \beta\, x_{ij} + e_{ij}$. We assume that all e_{ij} of the *m* choices are independent, identically distributed with type I extreme value (Gumbel) distribution.

We use a three-alternative specification of the empirical model, based on the differences between structural remedies, behavioral remedies and unconditional acceptances. "Acceptance without remedy" *(y = 0)* is treated as a reference category, the other alternatives: "with behavioral remedies" *(y = 1)* and "with structural remedies" *(y = 2)*. The models could not be computed with the whole set of regressors because some dummy variables are multicollinear.

Results

The previous statistical analysis helped us screen a more restrained set of reasonable variables. Following Bougette and Turolla (2006) we adopt the following methodology: firstly estimate the models and select one by looking at three criteria: regressor significance, percentage of correct predictions, and the pseudo R^2. Investigation of the model leads to several conclusions.

[7] See W.Green (2008)

Market power variables appear significant for acquired firms, especially Acquid2 and it determines behavioral remedy decisions positively. There is no the unique relation between market shares of acquirers and remedies' implementation.

Significance of the Entry variable is sensitive to model specification and could fall below a 10% significance level that is contrary to our expectations. Another result is that a group of firms being acquired is significant for both types of remedies.

Results also indicate that various industries are significant. The housing and public utilities takes the value 1 for almost all cases with behavioral remedies i.e., it is a perfect classifier. Mergers in machinery-producing industry, construction and energy are likely to be accepted with behavioral remedies too. At the same time mergers in energy could invoke imposing divestitures.

The estimated coefficients[8] of the two MNL model specifications are presented in tables 6 and 7 in Appendix. Specification 1 reflects the dependence on the size of merging firms (market share and world leader) and entry barriers (see Table 6). Specification 2 is interesting because it could predict ("distinguish" between) behavioral and structural conditions in the best way (see Table 7).

Conclusion

Before 2005 the preliminary merger control in Russia was a huge burden that both antimonopoly authorities and entrepreneurs had to bear. Reforms of 2005-2006 resulted in the decrease in the number of mergers liable to the control. This allowed the FAS to focus on the mergers that would really be able to damage effective competition, and scrutinize them thoroughly. As a result, there was an increase in both the percentage of merger refusals (to 2%) and merger appraisals on which some requirements were imposed (from 5,8% to 8,3% of the total number of appraisals). Besides, companies' administrative costs decreased.

In the new Federal Law "On protection of competition" the possibility to impose structural requirements was enshrined. In fact, we can say that a new model of the preliminary merger control has been created. However, we have to admit that the practical implementation of the law is still far from being perfect. The reason is the character of the remedies imposed on merging companies. The fact that most remedies are behavioral, in our view, can not be interpreted as a drawback of the legislation. A number of institutional explanations account for this feature of the Russian preliminary appraisal system: markets are highly monopolized, antimonopoly officials lack experience, some institutions (e.g. trustor institution) are ineffective, etc. As we have discussed above, it is the tenor of the behavioral remedies that causes the problem: some of them partly «echo» the Articles of the law «On competition»; others impose

[8] All estimations were carried out using SPSS 19 software.

certain risks, limiting the choice of competition strategies; others (price remedies) practically transfer some companies to the tariff regulation model. The analysis of information published on the web-site of the FAS makes us think that the monitoring of remedies is not an important part of antimonopoly authorities' activity. At that, the FAS impose requirements more often than antitrust authorities of EC or USA do. Thus, we can conclude that the effectiveness of the remedies implementation is not high. The tendency towards direct regulation of the merging companies' activity (which manifests itself in certain types of behavioral remedies) can be explained by problems caused by the macroeconomic slowdown or political aims, but it is unlikely to «reestablish the broken competitive conditions».

In the second part of the paper we investigate the use of merger remedies by the FAS. We build a database for the mergers approved during 2007-2011 and analyze the determinants of remedies with a multinomial logit modelization. The sector variables influence the authority's decisions. Housing and public utilities, machinery-producing industry, construction and energy, often invoke behavioral remedy decisions due to economies of scale. Non-discrimination access remedies are mostly used in two sectors: housing and public utilities (as a local natural monopoly) and energy sector (as high concentrated). The approach stresses the importance of a size effect in the decision-making process: Variables that reflect merging parties' size (like world leader, several acquires or acquired firms) encourage the FAS to imply behavioral remedies.

In this paper the first attempt has been made to research and assess conditioning a merger in Russian merger policy. However, the quality of the models is not good enough to handle all types of merger outcomes (especially structural ones). Further case-by-case research of structural remedies could be a great complement to presented work. This new information would permit a more complex modelization of the merger process.

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Appendix

Table 5: Merging firms' sectors

Variable	*Sector*	*Frequency*	*Percentage*
Sector_GKH	Housing and public utilities	81	23,6%
Sector_MTL	Metal industry	14	4,1%
Sector_MHS	Machinery-producing industry	65	19,0%
Sector_TEC	Energy sector	60	17,5%
Sector_STR	Construction industry	35	10,2%
Sector_LP	Consumer goods industry	18	5,2%
Sector_Him_pr	Chemical industry	13	3,8%
Sector_Transp	Transport	8	2,3%
Sector_Kmc	Communication	9	2,6%
Sector_Fin	Financial sector	13	3,8%
Sector_Les_pr	Forestry	3	0,9%
Sector_OPK	Military industrial sector	7	2,0%
other		17	

Table 6

MNL coefficient estimates (specification 1)

type	variables	Coefficient	Standard errors
Behavioral Remedies	[acquid1=0]	3,258***	(0,742)
	[acquid1=1]	0	.
	[acquir3=0]	-1,261**	(0,572)
	[acquir3=1]	0	.
	[entry=0]	0,486	(0,389)
	[entry=1]	0	.
	[world=0]	-2,793*	(1,041)
	[world=1]	0	.
Structual Remedies	[acquid1=0]	3,327***	(0,876)
	[acquid1=1]	0	.
	[acquir3=0]	-0,952	(0,857)
	[acquir3=1]	0	.
	[entry=0]	-1,690**	(0,842)
	[entry=1]	0	.
	[world=0]	-1,162	(1,291)
	[world=1]	0	.

Predicted Correct. *83,10%*

Pseudo R2 *0,32*

*Note: Standard errors are in parentheses. *, **, *** represent significance at the 10%, 5% and 1% level, respectively.*

Table 7

MNL coefficient estimates (specification 2)

type	variables	Coefficient	Standard errors
Behavioral Remedies	[acquid2=0]	-1,728**	(0,761)
	[acquid2=1]	0	.
	[Kmc=0]	4,758***	(1,279)
	[Kmc=1]	0	.
	[TEC=0]	,330	(0,559)
	[TEC=1]	0	.
	[crewd=0]	-3,022**	(1,413)
	[crewd=1]	0	.
	[crewr=0]	-1,190***	(0,408)
	[crewr=1]	0	.
	[world=0]	-1,497	(1,066)
	[world=1]	0	.
	[simdeal=0]	-1,525***	(0,529)
	[simdeal=1]	0	.
Structual Remedies	[acquid2=0]	-1,203	(1,061)
	[acquid2=1]	0	.
	[Kmc=0]	,325	(1,588)
	[Kmc=1]	0	.
	[TEC=0]	-2,993***	(0,856)
	[TEC=1]	0	.
	[crewd=0]	-4,220***	(1,495)
	[crewd=1]	0	.
	[crewr=0]	-,085	(0,735)
	[crewr=1]	0	.
	[world=0]	-,760	(1,378)
	[world=1]	0	.
	[simdeal=0]	-,152	(0,888)
	[simdeal=1]	0	.

Predicted Correct. 84,3%

Pseudo R2 0,45

*Note: Standard errors are in parentheses. *, **, *** represent significance at the 10%, 5% and 1% level, respectively.*