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USING REMEDIES IN RUSSIAN MERGER CONTROL

This article is motivated by a growing interest in the problem of merger control quality assessment. Remedies are one of the instruments of merger control and have a significant influence on the results of it. This paper aims to build and empirically evaluate a discrete choice model of merger remedies implementation in Russian merger control. The database consists of 443 merger cases accepted by the Russian antimonopoly agency between 2008 and 2011. We analyse the agency's decisions to find which characteristics of merging firms and markets lead the Federal Antimonopoly Service to decide whether to allow conditional acceptance. We find that variables related to high market power lead more frequently to a remedy outcome. Such industries as the energy sector, communications and insurance positively affect the probability of a structural remedy. We do not find significant effects of "non-structural" variables, such as the world leader and the nationality of the firm-buyer.

Keywords: merger control, behavioural and structural remedies, discrete choice models

JEL classification: K21, L40, D78

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Introduction

Merger control (or control of concentrations) refers to the procedure of reviewing mergers and acquisitions under competition law². Economic theory claims that mergers could have both positive and negative consequences for social welfare. Concentrations can lead to a range of efficiencies, such as economies of scale and scope, advantages in distributions and marketing, and in research and development (Van der Berg and Camesasca, 2001). Potentially not only producers but also consumers can gain from mergers due to cost saving (Williamson, 1968). At the same time, a merger can lead to the augmentation of market power and consumer price increase. Also mergers may dampen the competition by reducing the number of effective competitors, the incentives to innovate, or impeding entry (Motta, 2004), (Lyons, 2004). This basic economic dilemma poses regulation problems for competition agencies. Effective merger regulation is the essential ex ante means of filtering merger proposals so that efficient ones are allowed while anti-competitive ones are not. In order to prevent expected abuse of market power due to the merger, the competition agency has the power to prohibit a merger or propose conditional acceptance. In the last case, the authority imposes commitments on merging parties as a condition to accept the merger. These are known as remedies, and have traditionally been divided into two basic forms. Structural remedies address the market structure, for instance requesting to divest some assets of merging firms to create a new competitor and eliminate the competitive constraint. The other, behavioural remedies, aim to restrict the merged firms' behaviour.

Remedial conditions have been used in Russian merger control since 2002, but at the beginning, the Russian antimonopoly agency could involve only behavioural conditions. A legal foundation for structural remedies was created at the end of 2006 when the new antimonopoly Federal Law was adopted. Now we have an opportunity to assess the first results of merger control over the new competition law. According to annual reports of the Federal Antimonopoly Service in merger control conditional acceptance were implemented 10 times more often than prohibition in average during 2007-2010 (Report of the Competition State, 2011). The growing number of situations where remedies were applied to merger proposal necessitated the assessment of the efficiency of this antitrust policy tool. One way to evaluate the results of merger remedies implementation is using a case-by-case approach (Merger Remedies Study, 2005). The other is to look into the economic logic of the competition agency merger decisions. The aim of this paper is investigate the factors that can influence the Russian competition agency's decision-making process when it faces an anticompetitive concern from a merger. The

² In Russian Federation the competition law is called antimonopoly law and competition authorities bear the name of Federal Antimonopoly Service correspondingly.

results of our research could help draw up recommendations on how particular norms and practices can be improved. To achieve our aim, we build and empirically evaluate a discrete choice model of merger remedies as the basis for policy analysis. The database consists of 343 mergers accepted by the Federal Antimonopoly Service between 2008 and 2011. We focus on the following question: Which characteristics of merging firms and markets lead the authorities to decide whether to require conditional acceptance?

The paper is organized as follows. Section 1 contains a literature review. Section 2 explains the changes concerning merger control that Russian competition policy underwent over the last decade. Such an analysis forms the institutional background of our assessment. Section 3 contains the description of the model and the database we built. Section 4 reports the results and their discussion. The last section offers some concluding comments.

1. How to measure agency's decisions efficiency?

To the author's knowledge, the first attempt to assess the efficiency of a competition authority was the well-known article of Posner (1970). He studied the correlation between business cycles and the number of competition cases at the US Department of Justice. He found some significant positively correlated variables, such as the GDP and the authority budget, and the only negatively correlated variable was the "war period". More recent studies have followed Posner's work and developed a statistical (later – econometrical) approach.

There are only a few examples of research that combine positive analysis and quantitative methods in studying competition agency decision about mergers. According to Bougette and Turolla (2006), all economics studies which have attempted to evaluate the accuracy of antitrust agency decisions can be divided into three different groups: 1) cost-benefit analysis; 2) event study approach; and 3) the discrete choice approach. The last allows a researcher to take into account a large range of economic factors, which could influence the agency's merger decision, 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 with four explanatory variables: 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 are 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, authors showed that political pressure from Congress was a significant factor. Khemani and Shapiro (1993) made a similar work but looked at Canadian mergers data. Market shares and concentration were found as the most important factors while the level of entry barriers and

competition from imports remained less significant. Weir (1992, 1993) studied 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 about European antitrust authorities' decisions: Bergman et al. (2005) and Bougette and Turolla (2006). 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: an accepted or rejected merger. The authors found that the probability of a merger rejection 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 facilitates 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 a 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 firm characteristics lead the European Commission to decide whether to require conditional acceptance? The authors differentiate structural and behavioural remedies. Another original feature of this study is to explore the determining factors of the authority decisions with a neural network model differentiating cases accepted with or without remedies (either structural or behavioural). They found that variables related to high market power lead more frequently to a remedy outcome, whatever the phase. Sectors are relevant for behavioural remedy. Innovative industries such as energy, transportation and communications positively affect the probability of such requirements. Lastly, the "political" factor (Competition Commissioner) appeared significant.

2. Merger control in Russia: changing model of regulation

The next 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 al. (2011) analysed the development and implementation of antitrust legislation in Russia and, among other things, discussed the results of the Russian merger control model. Our study provides a more detailed analysis and focuses on using remedies under a new merger control regime.

In Russia merger control³ has become one of the on-going issues of competition policy since the first antimonopoly law was adopted in 1991⁴. In Russia, this law (as well as many other laws necessary to create the institutional infrastructure of a market economy) was «borrowed», i.e. created mainly on the basis of European competition laws; and it was further developed and enforced within the transition period in the Russian economy. That is why Chapters 17 and 18 of Section V (from the legislative basis of the merger control) have been amended in almost 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 the 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 organization mergers or the 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 a company as an economic agent (as opposed to the company as a legal entity); and
- 2) increasing of the threshold value of the preliminary control (of the transaction volume). Until 2002 the preliminary appraisal was compulsory for the companies with a 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 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 from 2002-2004 in Russia reached more than 20,000 a year, whereas in the 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. Furthermore, it led to increased costs (for both antimonopoly authorities and companies) and lowered the efficiency of antimonopoly authorities (in most mergers the control was rather

³ The Russian competition policy uses a more general term «concentrations» to imply «mergers»

⁴ Article 17 and article 18 of Section V of the Federal Law of the Russian Federation «On competition and Limitation of Monopolistic activity in Commodity Markets» constitute the legal basis of merger control.

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 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

*Source: FAS of the RF, Competition Police Annual Reports; 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 two constituents determine their effectiveness: 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 the implementation of merger remedies

For the first eleven years of the first antimonopoly law operation (1991–2002⁵) 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 have technically⁶ had the ability to set requirements – to impose remedies – in the process of merger control. Yet, they were guided only by 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 an explanation of what these actions might be. That is why this regulation tool has been used spontaneously. According to some expert 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

⁵ 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.

⁶ These opportunities were provided by item 4 of the Federal Law N 122-FZ of 09.10.2002

an employee in charge of this area of work understood the economic nature of the processes taking place in different markets.

In the new Federal Law “On protection of competition” there is a list of conditions and requirements to merging firms, which FAS can 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.

The wordings of regulatory norms and decision making criteria, enshrined in the new competition law, are a great advance. However, the wordings used in the Federal Law “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-dependent. This could have resulted either from the desire to provide a more general wording to avoid mistakes when the mergers that are beneficial for society are rejected or from the lobbying of interest 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, the adoption of such methods in the USA and the EU has allowed the decision making process to be more transparent and to reduce the number of arguable situations and, consequently, to reduce the transaction and direct costs of merger control.

Implementation merger remedies in Russia: what requirements are being chosen?

As mentioned above, remedial conditions have been used in Russian merger control since 2002. Russian antimonopoly authorities mainly use behavioural requirements while the 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 assess current practice.

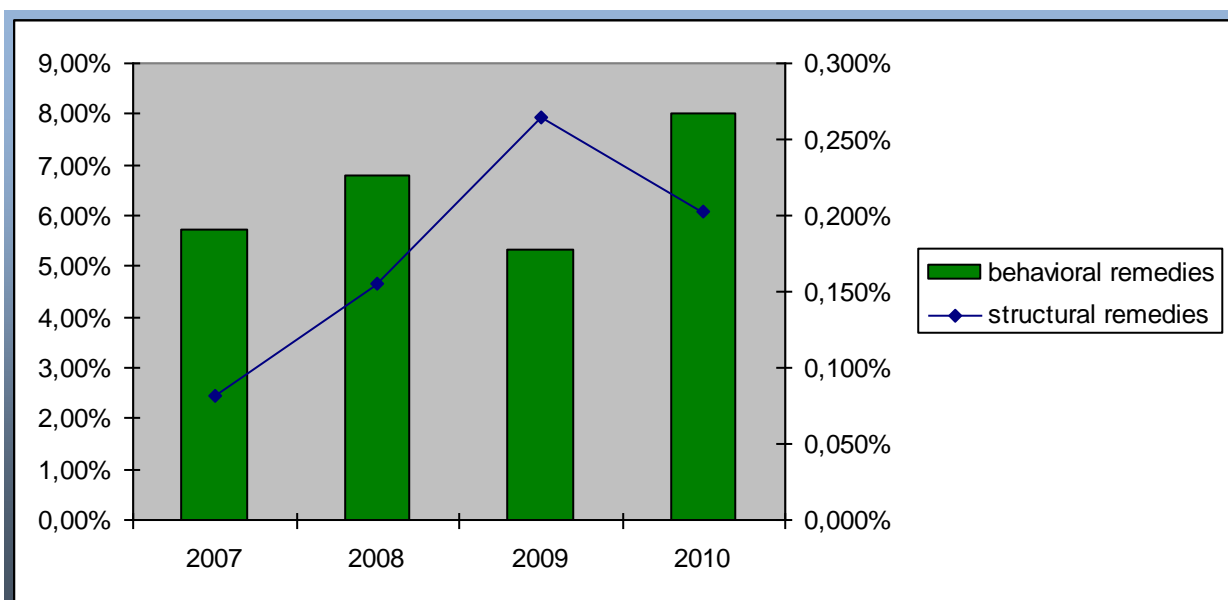


Figure 1. Remedies in Russian Merger Control (2007 – 2010)*

*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 from 2007 to 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 a reduction in the number of the mergers under consideration and this could be explained by the change of control parameters.

We have created a database 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 sector breakdown of the mergers for which the requirements were imposed, we have systemised the data for the same period. More than a half of the mergers are in the housing and public utilities sector (28,9%) and the engineering industry (24,8%), the next 40% are in the construction material industry (16,1%), the fuel and energy sector (13,3%) and metallurgy (11,5%).

In general, the sector breakdown of mergers for which the requirements were set, corresponds the sectors which were integrating the most actively 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 remedy content

Of the greatest interest is to analyse the essence of the remedies, i.e. requirements and conditions imposed by the FAS in order to prevent expected negative impact of mergers. We will also discuss the changes that these remedies underwent in the period 2007–2010.

As we have shown above (see Figure 1), unlike competition and antitrust authorities in the USA and the EU, the Russian antimonopoly authorities tend to use behavioural remedies, i.e. they set constraints on the merged firms' behaviour and their property rights. Structural remedies were not used at all until the end of 2006 and we could not find detailed information (that is, 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 out of 9 were published on the FAS website. 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 evidence of the 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 the use of remedies – there were only 11 (2 of them were published) such conditions in 2009, and 7 in 2010 (6 were published). The requirement of divestiture of the entire or partial business is obviously a more serious intervention in the market. Implementation of such type conditions gives FAS the possibility to make a 'fine adjustment' of the each merger. At the same time to introduce legislation amendments is not sufficient to create an efficient merger control tool. Certain changes in the institutional environment should take place and there should be a need for deeper intervention of antitrust authorities. Although the estimation of the regulation effects of structural remedies is not the aim of this research it is useful to analyse mergers on which structural requirements were imposed during first four years of implementation in Russia. We consider 13 published structural requirements. Three of those mergers took place in the communication service market, one merger in the insurance service industry, one in transport sector and eight mergers in the fuel and energy sector. In almost all transactions the buyers were holding companies which specialize in asset management in one particular market or in one particular sector (for instance, ZAO «KES», Sineron Holdings Limited, OAO «AFK «Sistema», OAO «MTS»). 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. behavioural 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 behavioural requirements, their decisions on whether appraise a merger did not have to be disclosed to public. This accounts for the fact that almost all the data that we collected before the new law 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 make conclusions about the 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 has resulted in a higher quality and the standardization of the requirements imposed by the antimonopoly authorities. Leaping ahead, we should note that it also increases the effectiveness of behavioural remedies because information costs decrease and control over the fulfilment of requirements can be performed.

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

Table 2

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

	%
Price cap and fixing prices	11%
Non-discrimination behaviour requirements	28%
Business terms control	39%
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

Non-discriminatory behaviour requirements play a significant role in merger control. It would be logical to assume that such requirements are absolutely correct from an economic point of view. On the other hand, they do not need to be imposed as special condition of merger approval since the general provisions of competition legislation specify such requirements. In this respect, it is hard to interpret the clauses on non-discriminatory behaviour as behavioural requirements imposed on merging companies. If the ability to re-establish 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 (the power industry or the housing and public utilities sectors).

From the point of view of our analysis the requirements of non-abusive behaviour is of a much greater interest. In general, these requirements can be divided into those that prohibit companies reducing the volume of production, and those that prevent monopolistic price rises. 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 unable to re-establish the broken competitive conditions (which is necessary for the requirement). First, because the effectiveness of price and output control would diminish in recessions. A natural reaction of companies to "market contraction" – the reduction of output – would be impossible because of the requirements set by the FAS, and therefore 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 an economically unjustified reduction of the volume of production. This is the evidence of the fact that the FAS allows a reduction in turnover if such measures are justified from an economic point of view. However, it can considerably increase antimonopoly authority transaction costs when they have to decide whether the output reduction is justified. We can predict that the merged companies as 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 higher profits and setting a price cap can only impede but not suppress their willingness to make a profit which above normal. This possibility can be realized through an unjustified reduction of costs to the detriment of product quality, which damages the interests of consumers who, in a monopolistic environment, are not able to switch to a different producer. A solution to the problem of the diminishing effectiveness of the remedies requires that antimonopoly authorities should bear monitoring costs: product quality control is a complex process. So the problem of the diminishing effectiveness of the requirements is aggravated. Yet, since 2008 the problem of price control after a merger takes place was somewhat alleviated. Before 2008 antimonopoly authorities set an absolute price increase (for example, "no more than 10% a quarter"), but since 2008 the practice of imposing a relative limit 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 market situation is taken into account while price control is retained. 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 from 2007 to 2010 clearly demonstrates the lack of effectiveness of the tools used by the FAS. Its intervention in mergers is reduced to implementing behavioural remedies, which can lead to ambiguous results, as mentioned above. Furthermore, behavioural remedies have high monitoring costs in the ex post period or if such control is not carried out, do not “fulfil” their economic function with high probability.

3. Database

During the five years from January 2007 to December 2011, FAS received more than 22,000 merger notifications. The number of notifications per year decreased from more than 6,000 in 2007 to about 3,000 during the 2011-2012. From 1,5% to 2,5% of the authority’s decisions have been prohibitions in the formal sense (about 400 in total). At the same time the part of remedies varies from 5,5% to 8% (see Fig.1).

Some of the decisions of FAS are published on the web-site⁷, their number increased from 126 in 2007 (approximately 2% of the total) to 1514 in 2011 (46%). We use the FAS’s online resources to collect most 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 behavioural. Behavioural conditioning of mergers are more common than structure ones in the whole population (see Table 4).

⁷ See: <http://www.fas.gov.ru/solutions/>

Types of remedies analyzed (2007-2011)

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

If a 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 relevant market. Due to confidential business considerations, market shares are not easily available, we use 25% range dummy variables to collect them (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 otherwise.

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

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

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

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

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

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

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

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

- texts of the decisions and prescriptions of FAS;
- lists 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: 1 if the subject of the transaction is not a purchase of shares or a stake in the company, 0 otherwise.

Crew-d: 1 if the acquired consists of several (more than one) firms, 0 otherwise. This variable can reflect some bargaining power.

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

Entry: 1 if entry barriers are significant, 0 otherwise

Bergman et al. (2006), Bougette and Turola (2006) define Entry as a dummy variable taking the value of 1 if entry considerations are claimed in the Commission's decision. We 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 “poorer” 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.

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

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

Hmerger: 1 for a horizontal merger, 0 otherwise.

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

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

Offshor: 1 if the headquarters of acquirer or acquired firm are registered in offshore zone, 0 otherwise.

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

SameROwner: 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, 0 otherwise.

Vmerger: 1 for a vertical merger, 0 otherwise.

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

4. The multinomial logit model

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

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

where x represents a vector of covariates, such as merging firm 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, behavioural remedies and unconditional acceptances. “Acceptance without remedy” ($y = 0$) is treated as a reference category, the other alternatives: “with behavioural 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.

5. 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 R2.

The estimated coefficients⁸ of the two MNL model specifications are presented in tables 6 and 7 in the Appendix. The first specification includes traditional “structural” variables such as market share and entry barriers (see Table 6). Most of them (except world leader) should be considered by FAS according to the law. The second specification is more interesting because it could “distinguish” between behavioural and structural conditions in the best way (see Table 7). Investigation of the model leads to several conclusions.

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

Significance of the *Entry* variable is sensitive to model specification and could fall below a 10% significance level which 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 behavioural remedies i.e., it is a perfect classifier. Mergers in the machinery-producing industry, construction and energy are likely to be accepted with behavioural remedies too. At the same time mergers in energy could invoke imposing divestitures.

6. Conclusion

Before 2005 preliminary merger control in Russia was a huge burden which both antimonopoly authorities and entrepreneurs had to bear. Reforms of 2005-2006 resulted in the decrease in the number of mergers liable to that control. This allowed the FAS to focus on the

⁸ All calculations were carried out using SPSS 19 software.

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). In addition, company administrative costs decreased.

In the new Federal Law “On protection of competition” the possibility to impose structural requirements was enshrined. In fact, a new model of the preliminary merger control was created. However, we have to admit that the practical implementation of the law is still far from perfect. The reason is the character of the remedies imposed on merging companies. The fact that most remedies are behavioural, in our view, cannot be interpreted as a drawback of the legislation. A number of institutional explanations account for this feature of the Russian preliminary appraisal system, for example: markets are highly monopolized, antimonopoly officials lack experience, some institutions (e.g. trustor institution) are ineffective. As we have discussed above, it is the tenor of the behavioural remedies which causes the problem: some of them partly echo the Articles of the law “On competition”; others impose certain risks, limiting the choice of competition strategies; 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 authority activity. At that, the FAS impose requirements more often than the antitrust authorities of EC or USA do. Thus, we can conclude that the effectiveness of remedy implementation is not high. The tendency towards direct regulation of the merging companies’ activity (which manifests itself in certain types of behavioural 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 analyse the determinants of remedies with a multinomial logit modelisation. The sector variables influence the authority’s decisions. Housing and public utilities, the machinery-producing industry, construction and energy, often invoke behavioural 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 the energy sector (as it is 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 acquirers or acquired firms) encourage the FAS to impose behavioural remedies.

In this paper the first attempt has been made to research and assess merger conditioning 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 would complement to presented work. This new information would permit a more complex modelisation of the merger process.

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Table 5
Merging firms' sectors

<i>Variable</i>	<i>Sector</i>	<i>Frequency</i>	<i>Percentage</i>
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
Behavioural Remedies	[acqid1=0]	3,258***	(0,742)
	[acqid1=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	.
Structural Remedies	[acqid1=0]	3,327***	(0,876)
	[acqid1=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
Behavioural 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	.
Structural 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.*

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