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# COLLUSION IN MARKETS CHARACTERIZED BY ONE LARGE BUYER: LESSONS LEARNED FROM AN ANTITRUST CASE IN RUSSIA

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# COLLUSION IN MARKETS CHARACTERIZED BY ONE LARGE BUYER: LESSONS LEARNED FROM AN ANTITRUST CASE IN RUSSIA<sup>3</sup>

This paper demonstrates that even established and verified facts of agreements among producers are not a sufficient condition for cartel identification and, as a consequence, prosecution of agreement participants. Such requires looking at institutional details and the wider context of these and similar appearances or occurrences of documents and actions when qualifying the actions of market participants and their effects. This paper discusses a recent antitrust case brought against Russian manufacturers of large diameter pipes (LDPs) that examined supposedly abusive practices by these firms that were contrary to the law on the Protection of Competition, which prohibits market division. The case under consideration illustrates the importance of investigating institutional details when qualifying the actions of market participants and their effects. An analysis of the materials in this case using modern economic theory indicates that the presence of collusion is inconsistent with the active participation of the main consumer of LDPs in that agreement. The chosen format for the cooperation between pipe manufacturing companies and OJSC Gazprom, namely indicative planning, may be explained from the perspective of reducing contract risk in an environment characterized by large-scale private investments.

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Keywords: collusion, antitrust policy, credible commitments, indicative planning, contract risk.

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# Introduction

Qualifying episodes of seller interaction on the market as collusion is not a simple task, as it might seem to assume an oversimplified world vision. It does not mean that there is no ground to fight against cartels; it simply means that this battle is not so straightforward.<sup>4</sup>

Modern economic theory states that analyzing any organization presupposes that particular attention is paid to the institutional details that may significantly influence its choice of economic policy tools and/or the outcome of its decision to enforce relevant legal provisions. Consideration of such institutional details is important for reducing the risk that type I and type II errors will be committed while enforcing the law. One recent high-profile example of this phenomenon is seen in the antitrust proceedings brought against major Russian pipe manufacturing companies between 2011 and 2013.

This paper applies tools of new institutional economics in order to examine the problematic inter-relationship between organization contracting and antitrust policy in industries that researchers know extremely little about, despite their importance to the Russian economy. It is important to note that one of the major restrictions in exploring this subject and contributing to the body of knowledge on this topic is the availability of information on both the details of antitrust proceedings – which may contain information considered to be a commercial secret by a particular market participant – and this research sphere as a whole. Because of this fact, this article only presents information at the aggregate level or that is publicly available on the website of the Russian Federal Antimonopoly Service (FAS). The fact that a large proportion of aggregated information is not publicly available certainly complicates any investigation into the challenges of enforcing antitrust laws. Nevertheless, we bridge a gap in the literature by analyzing the specific features of Russian organizations that manufacture and trade in large diameter pipes (LDPs), and describe the lessons learned from the present case, which ended in March 2013.

The paper is organized in the following way. First we discuss problems of collusion identification. Then we give some notes on the development of the Russian LDP industry and present the Russian FAS' approach in the antitrust case of interest. Further analysis is then aimed at revealing the institutional details that were supposedly not taken into consideration when the Russian antitrust authority assessed the behavior of companies. The main lessons from the case are summarized in the conclusion.

<sup>&</sup>lt;sup>4</sup> Support for this idea might be found in Harrington [2006], Marshall and Marx [2012], and Hyytinen et al [2012].

## 1. The law and economics of collusion identification

The economic justification for prohibiting collusion (which is consistent with Clause 1 of Article 11 of the law "On the Protection of Competition", Article 1 of the Sherman Act, and Article 101 of the Treaty on the Functioning of the European Union) is that allowing suppliers to agree on supply partners and volumes among themselves may result in reduced output and a higher price relative to that resulting from competitive conditions [Stigler, 1964]. Moreover, such complicity might lead to lower product quality and poorer rates of product innovation, as well as impede the modernization of production processes, which may prevent not only new entrants from joining such an agreement, but also hinder their long-term sustainability. As a result, such an agreement would negatively affect public welfare in terms of both the consumers of the product and those parties further down the value chain.

Therefore, the detection and prevention of collusion are a longstanding antitrust problem. Numerous studies have been devoted to the search for economic indicators of collusive behavior, including excess capacities [Davidson and Deneckere, 1990], price-cost margin [Jans and Rosenbaum, 1996], descriptive statistics for price dynamics [Abrantes-Metz et. al. 2006; von Blanckenburg et al, 2012], and market-share stability [Geist and von Blanckenburg, 2011]. However, the results are often ambiguous.<sup>5</sup> It is argued also that the appearance and stability of collusion could be protected by a number of factors, such as small asymmetry in company capacities [Compte et.al. 2002]<sup>6</sup>; stable and growing demand [Staiger and Wolak 1992; Mendi and Veszteg, 2009]; high entry barriers, including import protection [Sutton, 1991, 1998; Symeonidis, 2002]; and others. This gives us theoretical support in detecting markets with a high risk of cartel formation.

However all the above-mentioned pieces of evidence are still indirect and cannot be considered as an irrefutable proof of collusion, as in most cases an alternative economic explanation can be provided for all of them. That is why detection of collusive behavior is a hard antitrust task, taking into consideration the fact that companies tend to avoid leaving direct evidence of entering into an agreement. In case of tacit collusion, economic agents recognize the benefits of restricting competition and do it without any agreement – formal or informal. Thus, coordination of company behavior becomes hardly unverifiable. In case of explicit collusion, there are two possible ways to obtain evidence recognizable by the court:

<sup>&</sup>lt;sup>5</sup> For a deep comparative analysis of the results of empirical studies, see Porter [2005] and Levenstein and Suslow [2006].

<sup>&</sup>lt;sup>6</sup> The authors concluded that the total level of production concentration is not as important as capacity distribution. The ambiguous interrelation between concentration and collusion sustainability is confirmed in, for example, Alger [1987], Orzen [2008], and Davis [2009].

- the confession of a cartel participant<sup>7</sup>;
- a deep antitrust investigation that reveals direct evidence of collusion, such as signed agreements.

Our analysis is devoted to the second type of evidence. Corresponding to Article 11 of the law "On the Protection of Competition" (referred to as "Article 11" hereafter), agreements are considered to be a "cartel" and therefore prohibited if they lead to:

- 1) an establishment or maintenance of prices (tariffs), discounts, margins and (or) extras;
- 2) an increase, decrease, or maintenance of prices at auction;
- 3) a division of a commodity market by territorial principle, volume of sales, or purchases of goods, assortment of goods, or the composition of sellers or buyers (customers);
- 4) a reduction or termination of the production of goods;
- 5) a refusal to enter into contracts with certain sellers or buyers (customers).

It may seem that any agreement that contains one or several of the mentioned points should be considered as clear proof of collusive behavior without any excuses. Our aim is to show that following the formal criteria without paying attention to the context of a situation may be a questionable approach.

# 2. Development of the LDP industry in Russia

Although the USSR – and later Russia – had imported LDPs for several decades starting in the 1970s, the issue of meeting the needs of major gas and oil transportation companies for Russian-made pipes did not find resolution until the early part of the 2000s.

Plenty of effort should be made by the state authority to overcome low incentives to invest in capital-intensive industries when the objective is considered to be strategic for the national economy. According to international practices, the most important element of state policy for developing capital-intensive industries at the initial stage is ensuring the required level of investments, which can be implemented in several ways, such as: 1) establishing a state-owned company; 2) raising foreign investments; 3) offering grants for certain developments for state orders or with simultaneous encouragement of internal demand; and, 5) motivating private companies to make investments without direct financing by the state.

<sup>&</sup>lt;sup>7</sup> The leniency program is aimed to destroy cartel agreements through trust-busting among their participants. This program allows the first cartel participant to report about collusion and thus avoid government penalties. Its efficiency is analyzed, for example, in Choi and Gerlach [2012]. The problems of implementing leniency programs in Russia are discussed in Avdasheva and Shastitko [2011].

Essentially, the Russian government used this very method to develop the manufacturing of LDPs. State policy for supporting the industry's development included the following tools:

- increasing import duties;
- reducing duties on individual types of raw materials and equipment for the metallurgical complex;
- applying the federal law on the regulation of procedures for procuring goods and services by natural monopoly entities and state-owned corporations, as related to the application of preferences for suppliers of Russian goods to procure products for the metallurgical industry;
- a directive for Gazprom representatives concerning the organization of tenders, namely to provide for Russian pipes supplies in proportion to the share of the Russian party in any projects for the development of gas-transmission network development; and
- an order concerning the development of a balance of supply and demand for pipes.

Thus, it should not be left unmentioned that the method for creating a new sub-industry that was implemented in Russia has a number of specific features, one of which is minimum direct participation of the state. LDP manufacturers entered the market one after another. Large-scale investments were carried out by pipe manufacturers, which resulted in the creation a new sub-industry arising in Russia, specifically the present-day production of LDPs. According to information provided by the Association of Pipe Manufacturers to the Russian FAS in Letter No. 121-11/APT, major pipe manufacturers invested approximately \$10 billion in the establishment and upgrading of pipe production facilities prior to 2010. This expenditure paid for, among other things, the five- to seven-year retooling programme conducted by a number of major pipe manufacturers. In 2012 LDP production capacity had reached approximately five million tons.

In October 2011, the Russian FAS investigated one of the companies engaged in the wholesale supply of LDPs for building cross-country gas pipelines, and identified signs of violation of Article 11, which prohibits market division by area, product range, or product output<sup>11</sup>. It subsequently instituted legal proceedings against all major Russian manufacturers of LDPs. The arguments of the Russian FAS concerning the propensity for LDP market participants to limit competition can be summarized in the following three points: 1) There was idle capacity; 2) The threat of imports was minimal; and, 3) a small number of market participants (and no new

news 32369.html?ct[1]=1&ct[2]=1&ct[3]=1&ct[4]=1&ct[5]=1&ct[6]=1&ord=1&curPos=10.

<sup>&</sup>lt;sup>8</sup> For a link to the minutes of the meeting with the chairman of the Russian government from July 24, 2009, No. VP-P9-25pr, see http://tpprf.ru/ru/committee/infokom/komarj/ (accessed 28 Nov. 2013).

<sup>&</sup>lt;sup>9</sup> The text of that letter is unavailable from any open sources. However, similar information is available at http://www.metalinfo.ru/ru/news/49798.

<sup>&</sup>lt;sup>10</sup> See http://www.metalinfo.ru/ru/news/49798

<sup>11</sup> See the FAS News Line, available at: http://www.fas.gov.ru/fas-news/fas-

Russian participants) had appeared in the LDP market in recent years. However, neither the market structure nor the qualification of the positions of individual market participants constitutes sufficient grounds for judging their actions (such as, illegally restricting competition) or any consequences thereof (including damage to consumers).

The materials in the case under consideration include diverse documents that described the issue of developing and meeting delivery schedules for pipes. The signatories to these documents were not only the contracting parties (in this case, a manufacturer of LDPs and Gazprom, an LDP manufacturer, and a trading company), but also a number of LDP manufacturers. This combination of signatories may have triggered the greatest concern of the antitrust authority related to compliance with the requirements in Article 11 and became grounds for charging four manufacturers with market division by area, product range, and output.

## 3. Was there collusion in the LDP case?

Theoretically, there are three types of governance mechanisms between LDP manufacturers and consumers that regulate the generation of a supply schedule:

- 1. Vertical. Under this mechanism, production plans are formed either (1a) in pairs between the consumer and each manufacturer (provided that manufacturers have no information on the consumer's arrangements for the majority of the planned output of LDPs), or (1b) through the creation of a single information field for all manufacturers of LDPs, which is initiated by the consumer.
- 2. *Horizontal*. Under this mechanism, the only interaction occurs among manufacturers, who determine their output and delivery plans and, as a result, make pricing decisions, while the consumer only adapts to the established sales conditions.
- 3. *Mixed*. This mechanism refers to a joint initiative by both the consumer and the manufacturers. Unlike mechanism (1b), however, the consumer has no negotiation advantages because of its market position (the only possible advantage results from the selected strategy of cooperation with the contracting party and competitors, which is available to manufacturers).

The governance mechanism in the case under consideration in the present study is closest to (1b), while collusion, according to Article 11, corresponds closest to mechanism 2. However, even for mechanism 3 it is necessary to examine the circumstances and consequences of the method used to formulate plans and develop a supply schedule. In this vein, it would be interesting to analyze how market participants would coordinate if mechanism (1a) were chosen as a structural alternative to (1b), as well as to mechanisms 2 and 3. Such a comparative analysis would allow researchers to assess the possible consequences of the selected governance

mechanism on the limited degree of competition and on consumers, both directly and further down the value chain.

Relationships among market participants can be driven by a number of factors. These driving forces should be taken into account not only to assess the behaviour of business entities, but also to understand how the FAS developed its approach to apply the provisions of antitrust laws in order to reduce the risks of type I errors, which hinder cooperation among economic entities and thus damage public welfare <sup>12</sup>. We now describe some circumstances to be taken into account when testing for the collusion hypothesis in the LDP case.

#### 1) Enforcement mechanism

An important aspect of collusion is not only its subject matter, but also the ways in which participants are coerced into an agreement, given that the outcome of the collective actions by participants is usually inconsistent with the conditions necessary to achieve an optimal individual result. In this case, an enforcement mechanism is needed to discipline market participants. The less stable the situation and the higher the degree of product differentiation, the higher the requirements for the effectiveness of the enforcement mechanism. However, although field investigations by the FAS attempted to identify elements of such an enforcement mechanism, there was no evidence that supply-side LDP market participants had created any such system. In this context, one of the principle issues is whether companies can be charged with unlawful acts without any evidence on the nature of the supposed economic agreement.

#### 2) Market entry

Once the objective to attract investments is solved – meaning that potential market participants are able to overcome sunk costs – the possibility of entry is expected to be an important factor that determines the sustainability of collusion in the market on the first stage of its life cycle. New manufactures of LDPs in Russia did not appear simultaneously, but rather entered the market one after another. In accordance with theoretical outcomes, the market entry of new market participants is not in good conformity with the collusion hypothesis aimed at limiting or excluding competition, as it dramatically damages the stability of such an agreement. This matter has been explored, for example, in Sutton [1991, 1998] and Symeonidis [2002]. The authors argue that firms may avoid colluding because it would only lead to entry, making incumbent firms worse off.

Vasconcelos [2008] contributes to the analysis of entry effects on cartel stability under demand uncertainty. Theoretical modeling results in the conclusion that collusion stability is negatively correlated with the number of firms in the agreement. It is also shown that the

<sup>&</sup>lt;sup>12</sup> For more details on type I and II errors in rules enforcement, see Garoupa and Rizolli [2012], Joskow [2002], and Shastitko [2011].

existence of a pool of competitors destructs the stability of the agreement more intensively when a potential entrant expects to be accommodated by incumbents, rather than when it expects to induce a temporary cartel breakdown if entry occurs.

Recent empirical evidence confirms the negative effects of entry on collusion sustainability. Levenstein and Suslow [2006] examine a variety of empirical studies of cartels. Among the other results of their study, the most interesting one is that "the biggest challenges cartels face are the entry and adjustment of a collusive agreement in response to changing economic conditions."

#### 3) Countervailing Buyer Power

The Analytical Report of the Russian FAS pointed out that the majority of LDPs manufactured by Russian companies have been used to construct gas transportation infrastructure. This means that the procurement process has largely been controlled by Gazprom (according to estimates by the Russian FAS, this amounts to more than 50% of electric-welded LDPs sold in Russia<sup>13</sup>). In this context, the following two inter-related circumstances are noteworthy.

- 1. The economic nature of collusion in any market should exclude the participation of the buyer, given that any agreement goes against its best interests. Including a buyer in such an arrangement fundamentally changes the economic nature of the agreement, notably price ceases to be the governance mechanism that drives the buyer-seller interaction. In this case, the wrong interpretation of the essence of the matter may result in the confusion of restricted competition, thereby preserving the market mechanism as opposed to superseding it (with the separate adaptation of each market participant to the changing circumstances of how goods circulate in the market).
- 2. The existence of a countervailing force creates obstacles for qualifying the dominant positions of sellers on the market<sup>14</sup>. In this vein, the judgment of the court in the case of *Russian FAS v. OJSC Megafon*<sup>15</sup> stands out. Although the latter (a mobile communications firm) has a high market share of traffic transfer services (including call termination) in its own network, as a buyer of the service in any other similar service markets it cannot afford to unilaterally determine the economic exchange conditions in markets in which it possesses a high share. Moreover, this

See <a href="http://tas.gov.ru/tas-in-press/tas-in-press/32311.ntml">http://tas.gov.ru/tas-in-press/tas-in-press/32311.ntml</a>

See "Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings", points 64-67. <a href="http://eur-press/tas-in-press/tas-in-press/32311.ntml">http://eur-press/tas-in-press/tas-

<u>lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2004:031:0005:0018:en:PDF</u>. See also, e.g. Case IV/M.1882 — Pirelli/BICC, points 73-80 http://ec.europa.eu/competition/mergers/cases/decisions/m1882\_en.pdf

<sup>&</sup>lt;sup>13</sup> See http://fas.gov.ru/fas-in-press/fas-in-press 32311.html

<sup>&</sup>lt;sup>15</sup> Judgment of the Arbitration Court of Moscow in case No. A40-14118110-17-942 dd. February 14, 2012. See also Shastitko [2013].

explains why the previously considered governance mechanism when forming LDP supply schedules (i.e., 1b) seems most likely to be representative in this case.

#### 4) Risk and uncertainty

Both the high level of uncertainty and the related risk of substantial losses can explain the type of business practice. This risk of losses is driven by the following three factors:

- 1. The significant duration of the production cycle (such as the order cycle in the case of sheet delivery from Germany, Japan, or South Korea for manufacturing LDPs);
- 2. The high cost of manufacturing products and significant switching costs, which prevent LDP manufacturers from fully utilizing their existing capacity to manufacture other goods; and
- 3. The volatility in both the supply conditions for the materials required to produce LDPs and the demand from major consumers.

However, the stated circumstances would have been less important had Russia not created – virtually from scratch – a modern sub-industry to manufacture LDPs. Without information on the future needs of the LDP market, these factories would have been unable to make decisions on multi-billion dollar investments for the development and establishment of a production operation for LDPs.

# 5) Temporal specificity of assets

Russia is not the only country to have a multi-branch network of cross-country pipelines. In this regard, the analysis, generalization, and evaluation of prevailing relationships between pipe manufacturers and those companies that control the pipeline network are fundamental.

The fourth point above has raised two important matters that must be discussed in detail based on the information derived from our document search.

1. Use of Tender Procedures. According to the results of our analysis, contracts for the supply of LDPs are typically awarded through tender procedures. However, we failed to find any publicly available press releases that communicated tender conditions or even official announcements on competitive tenders for the supply of LDPs. Unofficial reports, however, provided some insight into the tender procedure for the supply of LDPs under the international project to install the "Nord Stream" gas pipeline. The sequence of negotiations in this case proceeded as follows 16. Before holding the tender, Nord Stream AG, whose shareholders include Gazprom (51%), Wintershall Holding (a subsidiary of BASF SE) and E.ON Ruhrgas (15.5% each), and Gasunie and GDF Suez (9% each), examined the global market and determined six potential suppliers from Germany, Russia, and Japan. Only those six companies were invited to tender in November 2006. A year later in November 2007, contracts were signed with the successful tenderers of Europipe and Vyksunsky Metallurgichesky Zavod (Vyksa Steelworks),

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<sup>&</sup>lt;sup>16</sup> See http://www.niann.ru/?id=345824

stipulating the delivery terms and ensuring the timely implementation of the project to build the first line of the Nord Stream offshore oil pipeline system. The delivery period for the Russian company ran from May 2008 to the end of 2010. Despite this finding, however, we found no information that could allow us to assess the degree to which such a procedure is typical for the procurement of LDPs.

Types of Pipeline Construction Organization and Contracting. The construction of a 2. pipeline following the completion of the design and engineering stage depends on whether existing infrastructure allows the organization in question to accumulate LDPs in significant quantities before the physical construction commences. These infrastructure requirements comprise both special storage facilities for storing LDPs in order to preserve their useful properties, and a sufficient transport system to provide the uninterrupted supply of LDPs from the storage facility in accordance with the approved schedule. If the required infrastructure is in place, the relationship between the terms of tender and the start of physical construction is crucial, whereas the connection between the construction process and post-construction delivery by a particular LDP supplier may be weaker. If no such infrastructure has been established, however, a just-in-time system, or one that is similar, should be implemented. This delivery system requires more complicated logistics procedures in order to take account of the limited throughput capacity of the transport infrastructure, as well as the need for precautions if contingencies arise throughout the LDP delivery chain. In other words, the sustained implementation of the project requires that the risks associated with different asset specificity dimensions, including time specificity<sup>17</sup>, are identified and offset against the use of mechanisms, thereby allowing rapid response to any contingencies.

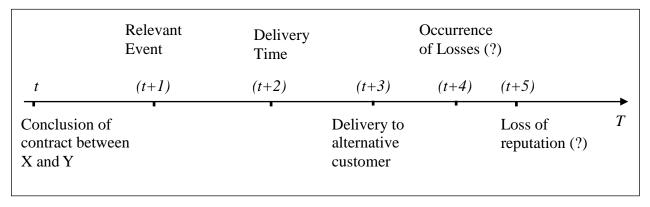
# 4. Credible commitments in LDP production and trade relationships

To assess the nature of contractual relationships and to decide on how to enforce antitrust laws, it is necessary to explain the methods used by companies to offset their risks.

11

<sup>&</sup>lt;sup>17</sup> As a form of asset specificity, time-based specificity is described in Williamson [1991]. Its importance in determining the form of organization has been confirmed by empirical materials; see, for example, Ermacora and Smajic [2009].

Fig. 1. Contracting Timeline



As shown in Figure 1, if company X reaches an agreement with company Y at time t for the delivery of goods Q in a situation where the production of these goods is weakly synchronized with the timing of expression by the parties, company X may decide against supplying the goods. This might occur because any changes in circumstances (such as the downward adjustment of production plans by Y at time t+1) might cause the fulfilment of the order at time t+2 to be irrelevant. In the event of a failure to sell goods Q to an alternative customer before time t+3, consequences would occur for X at time t+4, including losses, difficulties with suppliers, and reputational damage (possibly at time t+5). Thus, the actual losses may prove to be even higher than the loss of profit and sunk accounting costs.

Although Company X is unable to foresee all possible circumstances when entering into the agreement with the consumer, it can predict that such a scenario might arise. If that prediction comes true, the company has at least four alternatives available. These alternatives reflect the basic options explained in the theory of transaction costs:<sup>18</sup>

- 1. Decide against manufacturing product Q and use the available funds for another purpose, such as manufacturing other metal products for consumers, if the quantity and diversity of such products allow for the diversification of risk.
- 2. Take no precautions and directly include the company's own risk estimates in the product price, resulting in Y being able to buy a similar product Q for a cheaper price elsewhere (this scenario characterizes LDP imports in Russia). As a result, localized production and delivery of Q for Y will not occur. The only difference between this scenario and the first alternative is the outcome probability derived from detailed project preparation<sup>19</sup>.
- 3. Integrate X and Y, meaning the creation of control relationships. While this approach may reduce risks by increasing the awareness of them and the nature of their distribution, it

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<sup>&</sup>lt;sup>18</sup> See Williamson [1985, 2002]

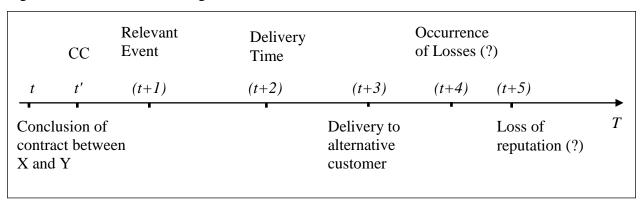
However, this particular project formed the core of the decisions made by the Russian government. For a link to the minutes of the meeting with the chairman of the Russian government from July 24, 2009, No. VP-P9-25pr, see <a href="http://urf.podelise.ru/docs/407/index-38245.html">http://urf.podelise.ru/docs/407/index-38245.html</a>.

could significantly increase average transaction costs, even given compliance with the requirements of prevailing antitrust laws.

4. Preserve the independence of X and Y (meaning no control and maintaining separate residual rights, but use a package of contractual precautions in order to retain credible commitment for X. This commitment could be characterized by information contained in the terms and conditions of the contract or in the behaviour of contracting parties, thereby forming expectations about the performance of particular actions in the future. Figure 2 shows a modified timeline for contracting.

At time t, or maybe later  $(t' \ge t)$  or earlier  $(t' \le t)$ , a commitment is formed that the parties involved may consider to be credible. This commitment may actually be made outside the original contract, but still within the buyer-seller agreement in the form of a number of successive or partially overlapping (and legally binding) contracts and other arrangements that have no legal force, but nevertheless influence the formation of plans (in this case, supply schedules).

Fig. 2. Timeline of Contracting with Credible Commitment



The long-term absence of LDP production (for several decades), which corresponds to the first and second points above, despite a natural need (transportation of gas and oil over large distances) and capability (developed metallurgical base) may indirectly indicate that the problem of credible commitments was not solved. Alternatively, this scenario might suggest that no incentives were required for investments or that other circumstances made the resolution of LDP production less urgent. Thus, the most important question is how Russian companies resolved the problem of credible commitments by using highly specific capital (which require high switching costs for alternative consumers).

The practical solution to the problem of credible commitments depends first on the alternatives available to the contracted parties subject to the national statutory requirements, and second on the alternatives those participants are ready to consider as viable. These alternatives can be classified into the following six categories:

- 1. A medium- to long-term indicative planning instrument. The materials in the present case suggest that such an instrument was attempted. Unlike collusion, the indicative planning system necessarily implies the participation of two parties that have opposing interests from the outset.
- 2. Procurement and supply procedures for LDPs that allow for ordering strip material and the delivery cycle and production of LDPs from such strip material. This alternative implies that LDP manufacturers may participate in tenders without assuming any risks related to significant sunk costs, namely the costs incurred in manufacturing products that have very limited or no alternative applications. Once a company has been awarded a contract for the supply of LDPs, it must make production arrangements by using its existing production facilities. However, another important condition must also be met: the lot size must reflect the supply capacity of an individual manufacturing company.
- 3. Long-term negotiated contracts between Gazprom and LDP manufacturers. This option has a number of sub-options, including long-term contracts with automatic prolongation or extension based on negotiations. However, few such contracts have been used in practice because contracting tends to be focused on short-term relationships in comparison with the planning horizon for LDP production and supplies. According to the materials in the present antitrust case, a relationship between Gazprom and LDP manufacturers was never developed due to the former's decision on the procedure for pipe procurement.
- 4. Utilization of financial instruments by LDP manufacturers to insure their risks. It remains unclear whether the stakeholders in this case ever raised or discussed this issue in practice because Russian trading sites cannot organize trading based on such complex financial instruments, while trading on foreign sites incurs additional costs. Moreover, supplies under the same Gazprom project are carried out by different manufacturers, even within the same quarter.
- 5. Direct state regulation. In this scenario, the right to decide on the material elements of contracts is delegated to a dedicated regulator, with pipe manufacturers preserving their formal status as private companies. A disadvantage of using this scheme is closely linked to issues regarding the efficient use of information and the full costs of regulation (including those for perverse incentives), which are so-called "last resort" measures to offset contracting risk.
- 6. A joint venture between pipe manufacturers and consumers in order to develop and commercialize new products (such as that between Exxon and Nippon Steel)<sup>20</sup>. Although the establishment of such a joint venture with the participation of an LDP manufacturer would

<sup>&</sup>lt;sup>20</sup> See

invariably put that party at an advantage, the participation of all manufacturers would not only be risky in terms of preserving a competitive environment, but would also be extremely difficult to establish.

Based on the foregoing factors, attempts to limit long-term contracts with LDP manufacturers result in two key approaches. First, indicative planning can be utilized by developing supply schedules that rest on strong mutual dependence between the buyers of LDPs and LDP manufacturers – even when the consumer can still rely on imports. Second, pipe manufacturers can insure their risks when there is a mismatch between tender procedures, on the one hand, and the specific features of the production and supply of LDPs and the strip material to produce LDPs, on the other hand. Specifically, manufacturers can be included in the procurement schemes of trading companies that have access to bank credit and sufficient experience in dealing with logistics challenges, against whom a suit can be brought in the event of their failure to fulfil the assumed obligations.

# **Epilogue of the story and conclusions**

The Russian FAS downgraded the observed actions from "collusion" to "agreements that restrict competition". The latter describes offences that can be excused in accordance with the rule of reason. The FAS took into consideration the fact of the creation of a new sub-industry, which led to the generation of more than 6,000 jobs and positively affected budgetary receipts.<sup>21</sup> It closed the case without any sanctions being applied to market participants, based on the provisions of Article 13 of the law "On the Protection of Competition".

Thus, Russian antitrust authority considered company behavior as being anticompetitive. However, we tend to assume that LDP competition is not being squeezed out, but rather that the partial substitution of the price mechanism is occurring through alternative methods of organizing interactions between LDP manufacturers and Gazprom. The presented investigation of the interaction between LDP manufacturers and Gazprom provides grounds for considering it to be a form of indicative planning. Under such an approach, the risks incurred by LDP manufacturers are partially offset by the increased degree of certainty required not only for making investment decisions to create new facilities, but also for manufacturing LDPs based on relevant specifications and by using the strip materials purchased – without limitation – from third-party entities.

15

<sup>&</sup>lt;sup>21</sup> See the judgment in the case against CJSC "TD TMK", OJSC "OMK-Stal", CJSC "ChTPZ Group", CJSC "ITZ", OJSC "ChTPS", CJSC "TD Uraltrubostal", CJSC "OMK", and OJSC "VMZ" posted on the FAS website: http://www.fas.gov.ru/netcat\_files/234/186/h\_33ea145a7ee18a88134e6a73619769eb

An investigation of the agreements of Russian LDP supplies provides two important lessons for deterring collusion. First, it once again stresses the importance of information exchange in producing arrangements for complex investment projects and under countervailing buyer power in interpreting the impact of the agreement on competition. When interpreting the coordination of delivery plans as evidence of collusion among sellers, it should be noted whether they exceeded the scope required for the successful implementation of complex construction projects with a high level of specificity for time and site assets.

The second lesson is that, in the long run and in the case of risky investments projects, cooperation among suppliers can bring efficiency gains even without improvement of production or technology, which is derived from economizing on transaction costs. Efficiencies of risk management seem to be necessary to consider the incentive for information exchange and coordination not generally related to collusion to be important.

However, future studies should aim to provide a more in-depth and detailed study of the various aspects of economic organization and supplies as a necessary precondition for the adequate enforcement of antitrust laws.

## References

- 1. Abrantes-Metz R.M., Froeb L.M., Geweke J., Taylor C.T. (2006). A variance screen for collusion // International Journal of Industrial Organization. Vol. 24 (3), P. 467-486
- 2. Alger D. (1987). Laboratory tests of equilibrium predictions with disequilibrium data // Review of Economic Studies, Vol. 45, P. 105–145
- 3. Avdasheva S.B., Shastitko A.E. (2011). Introduction of Leniency Programs for Cartel Participants: The Russian Case // Competition Policy International Antitrust Chronicle. Vol. 8(2). P. 1-11.
- 4. von Blanckenburg K., Geist A., Kholodilin K.A (2012). The Influence of Collusion on Price Changes: New Evidence from Major Cartel Cases // German Economic Review. Vol. 13 (3), P. 245-256
- 5. Compte O., Jenny F., Rey P. (2002). Capacity constraints, mergers and collusion // European Economic Review Vol. 46(1). P. 1-29
- 6. Choi, J.P., Gerlach, H. (2012). Global cartels, leniency programs and international antitrust cooperation // Journal of Industrial Organization. Vol. 30(6), P. 528-54
- 7. Davidson C., Deneckere R.J. (1990). Excess capacity and collusion // International Economic Review, Vol. 31(3), P. 521–541

- 8. Davis D. (2009) Pure numbers effects, market power, and tacit collusion in posted offer markets // Journal of Economic Behavior and Organization. Vol. 72(1), P. 475-488
- 9. Ermacora S., Smajic S. (2009). The Make-or-Buy Decision in the Croatian Shipbuilding Industry: A Transaction Cost Economics Approach // South East European Journal Of Economics And Business. Vol. 4. No. 1. P. 81-105
- 10. Garoupa N., Rizolli M. (2012). Wrongful Conviction Do Lower Deterrence // Journal of Institutional and Theoretical Economics, Vol. 168, P. 224–231
- 11. Geist A., von Blanckenburg K. (2011). Cartel detection Is market share volatility a significant indicator? // Intereconomics. Vol. 46 (4), P. 217-221
- 12. Harrington J.E. (2006). How Do Cartels Operate? // Foundations and Trends in Microeconomics. Vol. 2(1), P. 1-105
- 13. Hyytinen A., Steen F., Toivanen O. 2012, Anatomy of Cartel Contracts // Institutt for SamfunnsØkonomi, Discussion Paper № 25, http://www.nhh.no/Files/Filer/institutter/sam/Discussion%20papers/2012/25.pdf
- 14. Jans I., Rosenbaum D.I. (1996). Multimarket contact and pricing: Evidence from the US cement industry // International Journal of Industrial Organization, Vol. 12, P. 391–412.
- 15. Joskow P.L. (2002). Transaction Cost Economics, Antitrust Rules and Remedies // Journal of Law, Economics and Organization. Vol. 18, No. 1. P. 95–116
- 16. Levenstein M.C., Suslow V.Y. (2006). What Determines Cartel Success? // Journal of Economic Literature. Vol. XLIV. P. 43–95
- 17. Marshall R. and Marx L. 2012, The Economics of Collusion Cartels and Bidding Rings. MIT Press
- 18. Mendi P., Veszteg R.F. (2009). Sustainability of collusion: Evidence from the late 19th century basque iron and steel industry // Investigaciones Economicas. Vol. 33 (3), P. 385-405
- 19. Orzen H. (2008). Counterintutive number effects in experimental oligopolies // Experimental Economics, Vol. 11, P. 390–401
- 20. Porter R.H. (2005). Detecting Collusion // Review of Industrial Organization. Vol. 26. P. 147–167
- 21. Shastitko A. (2011). Type I and II Errors in Economic Exchanges Involving a Guarantor Third Party // New Economic Association Journal. Vol. 10. P. 125-148
- 22. Shastitko A. (2013). Role of Economic Analysis in Anti-Trust: General in Specific // Economic Policy. Vol. 3. P. 107-125
- 23. Staiger R.W., Wolak F.A. (1992). Collusive pricing with capacity constraints in the presence of demand uncertainty // RAND Journal of Economics, Vol. 23, P. 203–220

- 24. Stigler G. (1964). A Theory of Oligopoly // Journal of Political Economy. Vol. 72(1). P. 44–61.
- 25. Sutton J. (1991). Sunk Costs and Market Structure: Price Competition, Advertising, and the Evolution of Concentration. Cambridge: MIT Press.
- 26. Sutton J. (1998). Technology and Market Structure: Theory and History. Cambridge: MIT Press.
- 27. Symeonidis G. (2002). The Effects of Competition: Cartel Policy and the Evolution of Strategy and Structure in British Industry. Cambridge: MIT Press.
- 28. Vasconcelos, H. (2008). Sustaining Collusion in Growing Markets // Journal of Economics & Management Strategy. Vol. 17(4), P. 973-1010
- 29. Williamson O. (1985). The Economic Institutions of Capitalism. Firms, Markets and Relational Contracting. New York, The Free Press
- 30. Williamson O. (1991). Comparative Economic Organization: The Analysis of Discrete Structural Alternative // Administrative Science Quarterly, Vol. 36. No. 2. P. 269-296.
- 31. Williamson O. (2002). The Theory of the Firm as Governance Structure: From Choice to Contract // Journal of Economic Perspectives Vol. 16. No. 3. P. 171-195

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