M&A Activity in Russian's Oil and Gas Sector: Challenges and Opportunities

An Empirical Study

by

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Biographic note

Ekaterina Vasina was born in USSR in 1989. She lived in Russian Territory for almost 15 years before she came to Portugal in 2004. Despite being little at the time of dissolution of the union, she witnessed changes in the country and brought out her roots to Portugal. She attended Oliveira Junior School in São João da Madeira, finishing high school with an average of 16 values and being placed on her first choice at School of Economics and Management of the University of Porto. After completing a degree in Economics, she joined the Master in Finance. During the first year was part of the Finance Club and at its end joined an internship in the finance department of the best wine producer worldwide - Sogrape Vinhos S.A. (awarded by World Association of Writers and Journalists of Wines and Spirits, 2015). Currently she is a financial analyst at the UK & Ireland Cross Industry Unit team at the IBM International Services Centre in Bratislava. Ekaterina Vasina is currently in transition between Porto and Bratislava.

Acknowledgements

Abstract

This work is meant to examine the M&A activity in Russia in the oil and gas industry, thus evaluating the long-term operational performance of the acquirer companies. Russia, as a world power in the energy industry and a reference among emerging markets, saw their companies, in the last two decades, to be restructured at an increasing pace through mergers and acquisitions. Using a sample of 224 domestic companies we gathered information for the period from 1999 until 2013. It should be noted that financial markets in Russia are not very liquid and only a few companies are listed, which prevents us from doing the analysis based on market returns. So, we are driven to use accounting information extracted from *Orbis* database. By using the GMM estimator we came to the conclusion that cross-border deals have a positive impact on the operational performance of Russian acquirers. However, when we look closer into the deal characteristics we found that the positive effect is no longer significant. Nevertheless cross-border deals within the same industry and in former USSR countries have significant negative impact on the performance of acquirers.

Key-words: Russia, M&A, Energy Industry

JEL-Codes: G34; P3; Q40.

Sumário

Este trabalho tem como objetivo principal analisar a atividade de M&A na Rússia na indústria de petróleo e gás natural, avaliando assim a performance operacional de longo-prazo das empresas aderentes a M&A. Uma potência mundial na área energética, e uma referência entre os mercados emergentes, nas últimas duas décadas, viu as suas empresas serem restruturadas a um ritmo crescente através de fusões e aquisições. Usando uma amostra de 224 empresas nacionais reunimos a informação no período de 1999 até 2013. É de notar que o mercado financeiro na Rússia tem uma liquidez muito baixa e são poucas as empresas que estão cotadas, o que nos impossibilita fazer a análise baseada nos retornos de mercado. Somos, pois, levados a usar informação contabilística extraída da base de dados *Orbis*. Ao utilizar o estimador GMM chegamos à conclusão de que negócios internacionais têm um impacto positivo sobre o desempenho operacional dos compradores russos. No entanto, quando olhamos mais de perto para as características dos negócios chegamos a conclusão que o efeito positivo deixa de ser significativo. No entanto, negócios internacionais dentro da mesma indústria e em países ex-URSS têm impacto negativo significativo sobre o desempenho dos adquirentes.

Contents

Tables

Figures

1. Introduction

Mergers and acquisitions (M&A) is a relatively new strategic theory as a concept. Nevertheless, in the last century, several waves of M&A led to a gradual substantial industrial restructuring in all parts of the world what has attracted increasing attention in view of the growth of its effects on corporate structures. The details and consequences of the businesses draw attention not only of the participants (acquirer and acquired) but also from investors, politicians, academics and other stockholders.

Russia, as a world power, is an interesting geographic reference to analyze whether M&A activity is relevant and increase company's value. If not, what are the reasons that could explain it?

Given the Russian History as a nation and respective economic conditions, it gives us a great and fascinating case to work with. Knowing that it is an emerging economy and taking into account the "recent" USSR dissolution, we have on our hands a unique case.
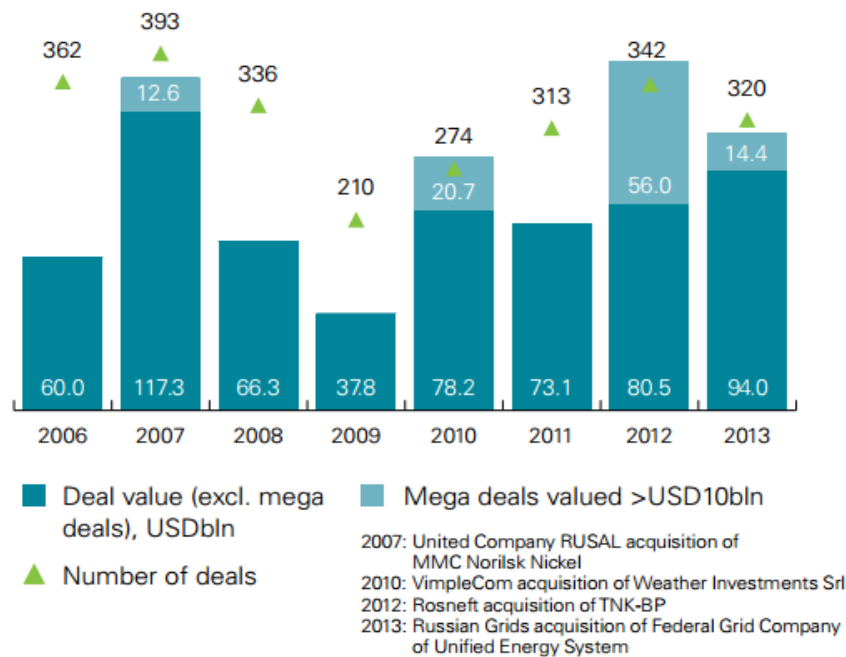
Figure 1: Russian M&A deal value and volume, 2006-2013 (KPMG 2014)

In 2013 Russian companies announced 320 deals in the value of $108,4 billion. While this represents an overall decline in both deal volume (6,43%) and value (20,59%), it should be noticed that 2012 was a record breaking year following Rosneft's blockbuster $56 billion acquisition of TNK-BP – the largest deal ever announced in Russia.

Hence, we can identify the trend of strong growth in M&A activity in Russia. Excluding the Rosneft / TNK-BP deal in 2013, it showed a year-on-year increase of 35% in M&A value of the deal (according to the graph this was the highest level since 2007). Russia's performance strength can be seen when compared to the European M&A deal which saw values fall 12% from $893 billion in 2012 to $783 billion in 2013.

The graph above shows how several geopolitical issues have had an impact on the M&A activity. The crisis of 2008 only showed the effect in the next year, with a drastic drop of 37,5% (volume) or 42,99% (value). The offset of one year can be explained by the fact that some of deals that were closed in 2008 has had started in 2007 already.

The current political crisis between Russian and Ukrainian governments, another more recent event, has enormous impact on Russians economy and currency, started to show the impact in 2013 with the drop from $136.5 billion to $108.4 billion in value of M&A deals.

Russia is one of the key players in the global energy market due to its abundant energy resources. As the figure 2 below shows, 33,1% of total value of deals in Russia were realized on Natural Sources Industry (which includes Oil & Gas). The present work aims to complement scarce empirical literature on M&A activity within Energy Industry in Russia.
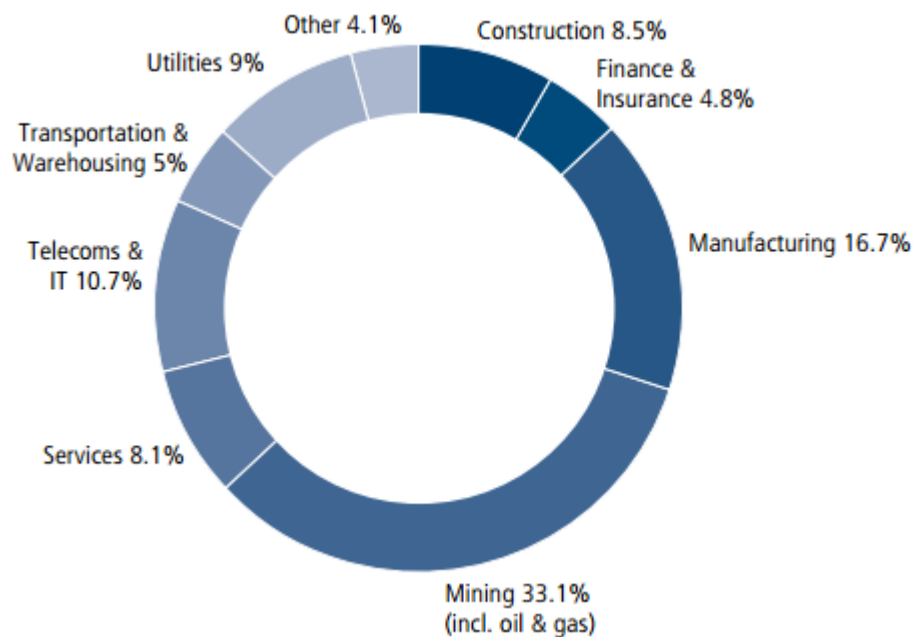
Figure 2: Share of Sector in Total Value of Deals in Russia (2013).
(EMISPRO 2014).

This study intends to answer to the following research questions:

- ✓ If and under which conditions M&A deals benefit the performance of energy industry acquirers in Russia?
- ✓ Which are the deal drivers in Oil and Gas industry in Russia?
- ✓ How different deal and firm level characteristics moderate the effects of acquisitions?

Hence, the main aim of this study is to analyze the M&A Activity in Russian's Oil and Gas Sector. In order to achieve this goal it will be used a sample of Russians acquirers for the period from 1999 until 2013. During the analysis we wittingly restricted our sample to a different period because of the problems with the existing information for the Russian companies before 2004. In order to access the long term performance of the companies it is necessary to use at least three years after the deal. The source of the data is the *Orbis* database, but firstly it was used the *Zephyr* database to identify those acquirers and to obtain the information about the deals itself.

Since the profitability will be assessed (that could be at least partially persistent over time), we will need to use the lagged dependent variable. This will bring the problem of reverse causality and the correlation of the choice variable with the unobservables in the error term. Being the nature of our data a panel data and taking into account the economic relation of our dependent variable with the model, we applied the GMM estimator to overcome the problem of simultaneity and endogeneity biases.

Regarding the model, our analysis will be restricted to an accounting profitability measure, Return on Assets (RoA), in order to overcome the problem of data collecting difficulties. The profitability of the firm is assumed to be a function of several firm determinants and deal specificities. Under these circumstances a count variable will be included to distinguish a single acquirer from a multiple acquirer in order to verify if the company can learn and improve with past deals or not.

With respect to the firm characteristic, a lagged dependent variable will be considered to account for dynamic effects in performance. Moreover, we will include the firm size and solvency ratio in order to access whether firm's resources and capabilities are in agreement with the ability of a firm to meet its obligations and to externally finance its activities.

Given the importance of the state in Russia, a dummy variable will be employed to distinguish the state owned companies and otherwise. State-ownership can lead to lower performance due to lower internal efficiency incentives, stronger organizational rigidities, or non-profit maximizing behavior (Yarrow 1988, Megginson and Netter 2001).

By using the GMM estimator we came to the conclusion that cross-border deals have a positive impact on the operational performance of Russian acquirers. However, when we look closer into the deal characteristic we found that the positive effect is no longer significant. But cross-border deals within the same industry and in former USSR countries have significant negative impact on the performance of acquirers. Deals with targets from non-former USSR countries and within different industries do not exercise any effect.

Besides this chapter, this dissertation is structured as follows: in Chapter 2, a literature review of the topic is made. In section 2.1, some of the main theories will be presented and in 2.2, an overview of the energy sector in Russia, followed by the integration of this industry within M&A theory. In order to end the second chapter we will present a brief review of the similar studies. In Chapter 3 we will cover the methodological aspects such as sample, model and the method of estimation. Finally, we will be able to present the results of our analysis and the main conclusions of the same.

2. Literature review

In this section we will cover the main literature that was found about the topic in analysis. Starting by the M&A theory review, the key theories will be exposed as well as the essential contributions they have had on our research. Passing by some similar studies, we will conclude this section with a review of the Russian energy sector within M&A theory.

2.1 Theoretical Background

Within M&A there are several types of transactions. An accurate definition of M&A should include mergers, acquisitions, takeovers, tender offers, joint ventures, minority equity investments, divestitures, spin-offs, split-ups, carve-outs, leveraged buyouts, reorganizations, restructuring, and other adjustments. However the scope of our analysis will confine to Mergers, i.e. when the target becomes part of acquirer, in order to simplify the process of collection of the data.

By looking into historical data we can verify that M&A activity takes place in waves. There are several factors that are able to provoke this waves, namely technological shock, legislation changes, escalating technologies prices, excess liquidity, low cost of capital or overvaluation of acquirer share price relative target's price (Sudarsanam 2003).

In last two decades we have witnessed a boom in the M&A activity (Pryor 2001). Being characterized by a rapid growth, this type of deals contributed to a deep reconfiguration of firm's organizational structure and core competencies as well as to the reshaping of industries (Bertrand and Zuniga 2006).

There is a huge amount of literature about M&A activity effects. Regarding the effect on the target company, the theory suggests that they are the winners in this relationship. Nevertheless, regarding the effect on the acquirer company, there is no consensus. Some of empirical studies suggest that there is no gain for the acquirers because the synergies created after the deal go to the acquired company (Jensen and Ruback 1983).

Other studies show that it is possible the acquirer obtain gains but it depends on certain conditions, like companies characteristics, industry characteristics, geographic location, culture of the organization, and so on (Dutta and Jog 2009). Other studies still suggest that there is no gain in M&A activity, or at least the effect is irrelevant (Bertrand and Betschinger 2012).

At this point, it is important to mention the agency theory that comes from the separation of ownership and management of organizations. It states that conflict of interest over the choice of corporate strategy between managers and shareholders can lead to very large costs. This situation is often a cause to M&A activity in order to reduce them (Jensen 1986). However, in last two decades capital markets became more competitive and improved shareholder control mechanisms.

For the Russian acquirers, according to Bertrand and Betschinger (2012), both domestic and international acquisitions tend to reduce the performance of acquirers when compared to non-acquiring firms. Moreover they show that considering the firm specifics, industry and deal level characteristics, Russians acquirers suffer from the inability to leverage value due to low M&A experience and capability, especially when making international acquisitions.

M&A over time was shown to have a major impact on the organization, powers and obviously the performance, both on the buyer and the acquired party. The key drivers through which M&A can increase the performance of purchasers are economies of scale and scope, more efficiency in capacity utilization, lower transaction costs compared with the market, acquisition and redistribution of new features and capabilities. All these sources of value creation in turn contribute to the increase in market power that a company can get (Gugler, Mueller et al. 2003).

However, companies from emerging markets use more fiercely international mergers and acquisitions when compared to developed market companies. This instrument serves to raise the existing competitive advantages in the national or off border market, since their competitive disadvantages are larger and M&A offers a quick way to gain access to misplaced resources and assets and expand the corporate environment (Luo and Tung 2007).

Nevertheless, those firms that go abroad face several challenges that can outweigh the possible gains of internationalization. In the end, these obstacles can reduce the performance of the acquirers.

Furthermore, there are still only few studies focused on emerging market companies. Bidders from emerging markets are often portrayed as being mainly motivated by a desire to extract knowledge from the target firms located abroad – instead of improving the target firms' business – and apply it in their own domestic operations. This should not only lead to improved firm profitability at home, but also enhance the technological and economic development of their home country. The question, however, arises if this transfer of knowledge indeed takes place.

A global analysis of the theory of M&A reveals that the aim of companies involved in mergers or acquisitions is the growth of its value, resulting from the achievement of positive synergies from the merger. However, according to estimates by various researchers, about two-thirds of mergers and acquisitions do not lead to the expected results. The main causes of failure are: technology incompatibility, companies with high levels of production disparity, the incompatibility of corporate cultures and strategic objectives, the expected synergy effects were too optimistic, overpayment for the target company, inadequate risk analysis and unnecessarily large costs transaction.

Overall, acquisitions can generate value for acquirers throughout deal factors and characteristics of the firms (Dutta and Jog, 2009), as opposite to Bertrand and Betschinger (2012). In the next section we will present a brief portrait of the energy sector in Russia.

2.2 Russian Energy sector

The oil and gas industry is the cornerstone of the Russian economy. Given the amount of the existing reserves it is obvious that in the future, Russia will not be able to replace this economy driver by another. Since 2007 Russia boarded on an ambitious program to reduce this reliance by building up high technology sectors, but with few results so far. The example of this new strategy was the Skolkovo Innovation Center also known as the Russian Silicon Valley. Currently under construction, it is a modern scientific and technological innovation complex for the development and commercialization of new technologies, the first "city of science" in Russia's post-Soviet era under construction "from scratch".

In 2009 Russia was the world's largest exporter of natural gas and the second largest exporter of oil. This dependence on commodity exports makes Russia too exposed to the highly volatile global commodity prices, one of the events that we witness today.

Observing the international magnitude of the Russian energy sector, it is highlighted the exceptional large part of the production that goes to exports of the country and feed a large part of the world. The EU region, thanks to its geographic location has 86% of gas imports originating from Russia.

Nevertheless, it must be considered the proximity that the EU region has with the Western and Southeastern Europe as the gateway to new markets and business opportunities. In order to secure this income Russia has acquired several assets in EU and former Soviet Union states in the last few years.

By gaining control over vital elements of infrastructure, such as pipelines and storage facilities, Russia's main energy company, Gazprom, aims to secure regular and easy access for its products to the EU. Russian companies are trying to increase their resource base and incorporate strategic assets, as well as take advantage of local expertise and existing business networks.

Since the crash of the Soviet Union, Russia has undertaken substantial changes. Moving gradually from an isolated economy to a more market-based and globally-integrated, the

process that is ongoing as we can see on our empirical study. The first reaction was the privatization wave of most of the industries in the 1990s, with prominent exceptions in the energy and defense-related sectors. The movement can be explained by extreme nationalism and the state's role in these two areas. The protection of certain industries stems from broader political and international relations.

This phenomenon is not specific to Russia, it can be observed in both developed and developing countries in cases of oil firms, banks, and parts of the infrastructure sectors that are controlled by the state. However, private sector still remains subject to substantial state interfering and despite the mass privatization after the end of the Soviet Union, state-owned enterprises continue to be important in the Russian economy.

Statistics show the breadth and weight of the energy industry in the national economy. However, as part of our analysis it is necessary to look beyond the numbers and consider the broader political and economic context within which the development of Russia is taking place. In this context becomes evident the importance that the state has in the most powerful Russian energy actors.

Between 1998 and 2008 the price of oil on financial markets jumped from $ 9 to $ 141 which influenced a lot the exports of this product in value and applies the same for natural gas, whose price is indexed to oil prices. Given this evolution in export earnings and the consequent increase in the value of national energy companies, the government saw a window of opportunity with companies that were once public. Government had been threatened by the growing power of businessmen in private companies now empowered with skills to influence politicians in power or govern the strategic assets in order to benefit themselves rather than the state as a whole. The solution was to recover some of the major companies that were privatized in the 90s.

As a result of this strategy, in 2005, Gazprom, the number one in the industry, was back under control of the state, and in 2006 it was granted the legal monopoly of export of natural gas to Gazprom. In subsequent years it is notable the interest and the power of the Russian state in the energy industry. Only during the period of our analysis Gazprom made 144 deals of strategic asset acquisitions, thus reflecting the state will. Consequently, in 2008, 44% of industry was responding to the government orders.

In addition to the presence of government members in boards of directors on strategic companies, the state also examined the legislation for the sector regarding the use of subsoil banning foreign investors from controlling assets considered important to the state. Hereupon, in the next section we will englobe the energy sector within the Russian market for corporate control.

2.3 M&A within Russian Energy sector

Mergers and acquisitions largely determined the structure of the current oil and gas sector in Russia. A considerable part of the country's hydrocarbon resources (oil, natural gas, coal etc.) accounted for the largest vertically integrated holdings, most of which adhere to the strategy of external growth (Butler 2011). What determines the relevance of mergers and acquisitions in this study is the impact on the effectiveness of individual oil and gas companies and the industry as a whole.

This method of restructuring the acquired companies is especially popular in the oil and gas sector. The limited hydrocarbon reserves and growing capital intensity of its production explains why the majority of oil and gas companies, characterized by homogeneous products, low growth industry, and large-scale production, prefer the strategy of mergers and acquisitions than other ways to improve performance and, consequently, the competitiveness of the market.

A special characteristic of the M&A process in the oil and gas sector in Russia is the presence of imperfect institutional environment that allows companies to rely on a high and stable income (despite the existence of unfavorable objective conditions to reproduction processes in the mining sector).

Under these circumstances, the strategy of oil companies, as a rule, aims to increase the cost parameters through mergers and acquisitions. Imperfect institutional environment provides national vertically integrated companies the possibility to acquire assets at low prices. This condition reduces the incentives to improve operational efficiency, geological exploration, modernization of fixed assets and at the same time it offers the possibility of acquiring resources through the company's own funds, which allows insiders not to take further action in order to raise capital and to maintain control over the company.

This way, mergers and acquisitions do not contribute to the effectiveness of the oil and gas industry. With the development of institutional environment regarding the execution of mergers and acquisitions of similar domestic companies that have been conducted at the turn of the twenty-first century, would be impossible without external financial

resources, which led to the creation of real incentives to improve the activity of companies in the following areas: geological exploration construction and modernization of refineries and petrochemical plants, etc.

Mergers and acquisitions are more likely to improve the efficiency of the oil and gas industry by exploring the economies of scale in developing new oil and gas provinces given the current situation of deteriorating hydrocarbon production conditions.

The high cost of integration transactions, characteristic of the economies with developed institutional environment, leads to the need to mobilize financial resources from the outside, which contributes to a change in the nature of ownership of companies, mainly operating in the interests of a wide range of shareholders of companies that are privately owned by individuals.

The most common theory, which describes the effects of mergers and acquisitions, is the theory of synergy. Its essence lies at the confluence of the new corporation being able to use a wide range of benefits that arises with the pooling of resources of these corporations. The Integration operation is often associated to the concept of separation of ownership and control, as well as its connection with agency costs. In Russian market, it must be taken into account the specifics of the integration processes in the oil and gas sector due to the dynamic development of oil and gas provinces and the government policy for the sector. Large vertically integrated structures tend to acquire assets in the early stages of production and maturity such as small innovative companies.

So far, the main reason for the consolidation of oil companies is the deterioration of hydrocarbon production conditions. As a result of mergers and acquisitions, companies seem able to accumulate a significant amount of money needed for the development of new provinces.

Another feature is the acquisition by major holdings of oil and gas assets of related companies (refining, petrochemical, power, etc.) in order to minimize the risk of volatility in oil prices increasing thus its financial stability.

Acquisitions, when compared to normal economic development, as a rule, provide advantage in fast access to new markets and increased production. However, they require high costs for its implementation. Study results indicate a high risk of M&A transactions. According to several sources, 50-70% of the M&A deals end up in failure.

It is necessary to consider the transformative nature of the Russian economy in the study of mergers and acquisitions. In our view, for a more complete explanation of the features of mergers and acquisitions in the oil and gas sector in Russia, it is necessary to consider them in the context of the institutional environment of the country, characterized by incompleteness and imperfection of the main business institutions, as it had been mentioned above.

Contradictions and inconsistencies in the development of the state structure model and imperfect institutions in the field of development as well as the use of hydrocarbon resources have led to the institutional environment that allows subsoil users receive a high and steady stable profit (despite the existence of conditions objective unfavorable to production processes in the mining sector). This enables companies in the mining sector not only to cover the deficit, but also to receive a significant additional income.

It is important to note the ease in handling business conditions in Russian energy sector, for example, the possibility of widespread use of various schemes of "tax optimization"[1], based on agreements and individual preferences. Under these conditions, companies in the extractive industry, act in a greater extent on the basis of their own trade priorities and at the same time are "intimidated" to a much lesser degree by rules and regulations in the natural resources industry.

Nevertheless, Russia is widely recognized as a country with high national and international levels of acquisition activity among emerging markets. However, concerning assets, there is a vast difference between small, medium and major companies. As a matter of fact, the redistribution of assets occurs in favor of companies with the highest administrative resources.

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[1] According to Kiymaz (1994), a merger will create wealth to stockholder whenever the tax liability of the combination is smaller than the sum of the tax liabilities of the two individual firms. This situation may occur if one firm had generated a loss and the other a profit.

The encouragement of using M&A to a higher discrepancy between companies reflects a country with unfair competitiveness, which has hostile ways of acquire assets to raise funds. Actually, major companies buy assets from small and medium companies with the aim of resale to great investors. In a field of large competitive disparities, there is a speedy and easy way to access resources and assets.

Therefore, that high discrepancy mentioned above is due to the acquisition of small and medium companies and assets. Thereby, it stresses the need of excluding the minority shareholders of subsidiaries of oil and gas exploration and of acquiring assets according to their own interests.

Hence, as it happens in emerging economies, in Russia, the internationalization is an important element to the enhancement of the competitiveness and to the company's growth. Moreover, it allows purchase of assets concerning spheres of influence of oil and gas explorations distributed on a geographical basis.

To increase the efficiency of the energy sector is necessary to implement a series of measures to correct the deficiencies of the existing institutional environment and to create conditions in which economic agents would be relatively more attracted to invest in their own development (geological exploration, improvements in refineries the development and introduction of new technologies) and not to capture and transfer assets. Following this, the ongoing integration of operations would lead to a more efficient sector and increase the competitiveness of domestic companies in global markets.

In order to enable M&A contribute to the development of the oil and gas sector in accordance with the interests of society, the state could adopt following measures presented in the table 1 below.

In a general way, the measures to be created must aim the promotion of a competitive market and the development of closer business of a company in the considered market. However, it is not enough to have the so-called rules of the game, you must be able to validate whether they are fulfilled.

Table 1: Changes to Institutional Environment

Rules of the game	The control rules
• The use of a differentiated approach to taxation as opposed to "fixed rate", currently in force. • Formation of the technical regulations system (standard requirements) for subsoil users, preventing the destructive use of hydrocarbon resources during extraction, damaging this way the environment. • Creation of legal obstacles to the use of transfer prices, which allows companies to "optimize" the tax deductions. • Encourage competition in the sector, particularly by increasing penalties for violation of the antitrust laws. • Establishment of legal barriers to hostile takeovers. • Creation of legal incentives for the creation of public companies with a transparent ownership structure. • Implementation in domestic companies of foreign standards of corporate governance. • Support for small and medium enterprises operating more effectively in the most superfluous deposit's levels. • Encourage innovation levels. • Promote the development of new oil and gas provinces.	• Create an effective system of protection of property rights for all investors. • Eliminate the possibility of selective application of the rules and regulations that govern the activities of companies. • Ensure equal access for all investors to use subsoil resources on the basis of public tenders. • Ensure equal access of all producers for energy installations, transport and general services, such as equitable access to all subsoil use systems (concessions, production sharing agreements, other types of licensing agreements). • Monitor and control (in accordance with the license agreements and project documents) development and production processes according to a range of indicators such as exhaustion of reserves, well production rates, the quality of products produced, costs subsoil; environmental measures, among others. Thereby taking more into account the interests of the state as the owner of mineral resources and limiting the opportunistic behavior of firms in the development of subsoil deposits. • Enhance the role of regions in the allocation of mineral exploration rights and increase their participation in the process of monitoring the conduct under conditions of use of the underground. • Increase the transparency of the auctions for the privatization of state property.

2.4 Similar studies

M&A is known to be able to restructure the domestic market much faster and deeper than the normal course of the economy and the entry and exit process. However, in our bibliographic research no empirical evidence was found about the effectiveness of market for corporate control in Russia. In general, the literature concludes that M&A increase value of target firms. Nevertheless, the outcome is less clear for acquirers. In fact, regardless of several years of evidence demonstrating that most acquisitions do not create value for the acquiring company's shareholders, managers continue to make more and bigger deals every year. Figure 3 presents a summary made by Kay (1995) of evaluations made on M&A activity.

There are several ways to analyze performance of acquirers. However, we have to take into account if the companies in our sample are privately held or are public. In the last case, the most common method used is the event study methodology which uses abnormal returns as a measure (M. Martynova and Renneboog, 2008). Abnormal Returns isolates the effect of other movements in common market event. In general terms, usually it can be used two different measures of aggregated abnormal returns in event study analysis, cumulating abnormal returns and the buy-and-hold abnormal return.

Determining whether mergers and acquisitions create shareholder value is challenging. The greater the success of the post-merger integration the more difficult it becomes to measure the value added by the merger. As a result most empirical studies conducted by financial economists focus on the stock market response a few days before and after the announcement date of the merger. While the window is short the effect on the stock price of the bidder and the target is based on long term expectations. The market's routinely negative response to M&A activity reflects investors' skepticism about the likelihood that the acquirer will be able to maintain the original values of the businesses in question and to achieve the synergies required to justify the premium.

METHOD OF EVALUATION	MAJOR STUDIES	CONCLUSIONS
Subjective opinions of company personnel	Hunt (1987)	Around half were successful
Whether acquired business is retained in the long term	Ravenscraft and Scherer (1987)	More divested than retained
Comparison of overall profitability before and after the merger	Meeks (1977), Mueller (1980), Ravenscraft and Cosh (1990), Scherer (1987)	Nil to negative effect
Effect on stock market valuation	Harris and Mayer (1988)	Positive initial impact

Figure 3: Merger & Acquisition Evaluations (Kay, 1995).

In our case we are not able to use market based information because most of our sample are privately held companies, this means that we have to use financial indicators based on the accounting information in order to perform our analysis.

Bertrand and Betschinger (2012) argue that emerging market acquirers suffer from the inability to leverage value due to low M&A experience and capabilities, especially when making international acquisitions. This conclusion comes from a sample of 609 Russian acquirers for the period between 1999 and 2008. Hence our intention is to test if the results maintain or change with the time passing.

Given that the analysis is over the long term performance[2], authors were not able to evaluate the effects of deals made in 2007 and 2008[3]. Hence, we will simulate the study developed by the authors; however, we will take advantage of the more recent data available and see the results on those important years for the market of corporate control in Russia.

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[2] In case of long term performance, the measure is taken over two to three years to give the acquiring company time to demonstrate action.
[3] As it can be seen in the introduction chapter, the statistics indicate that 2007 and 2008 are the years with higher number of deals.

Bertrand and Betschinger (2012) used the Return on Assets (RoA) as an indicator for the performance of acquirers and non-acquiring firms. They found rather negative effects associated with acquisitions. At best, acquisitions do not destroy value. However, they show that firm resources are of relevance and can be leveraged in domestic deals to improve the impact of acquisitions.

Moreover, those findings suggest that emerging market firms suffer from the inability to leverage value due to low M&A experience. Interestingly, authors found a positive interaction between domestic and cross-border deals in acquisition programs. Also, high-tech firms seem to be able to draw larger benefits from cross-border transactions than domestic ones, taking advantage of new market opportunities abroad. Finally, they do not find evidence that agency problems are the driving force of the negative long-term performance effects of acquisitions.

The table 2 summarizes the theoretical overview made in this section. Fundamentally the first thing that stands out in this table is the lack of literature on emerging market's presence and performance in M&A activity. Once again, we will explore this deficiency by following the framework of Bertrand and Betschinger (2012) and focus our work on Russian main economy driver – Oil and Gas Industry.

The table 2 display several empirical studies and summarize the operating performance measures used in each of them. In our case it is very difficult to use some of those, for example, CAR (cumulative abnormal returns) because there are only few listed firms in Russian economy. Nevertheless, even those that are listed do not have liquidity in financial market. To overstep this limitation we will use accounting data to evaluate the long-term impact of acquisitions.

This work aims to add to the existing literature on M&A effects in emerging market firms by focusing on long term performance, contrasting with works based on stock returns around the announcement date to access value effects (Morck and Yeung 1992, Moeller and Schlingemann 2005).

Table 2: Theoretical background - M&A – Summary Table

Authors	Country of study	Sample size	Sample period	Performance Measure	Results
Martynova, Oosting et al. (2007)	Europe	155	1997-01	(EBITDA - ΔWC)/BV	Acquisitions can generate value for acquirers.
Bertrand and Betschinger (2012)	Russia	609	1999-2008	RoA	M&A destroys value but deal specificities, acquirer characteristics and industry context matter.
Andrade, et al. (2001)	US	598	1973-79	CAR	Firm value is reduced or M&A's exert no impacta t all leading to so-called underperformance puzzle.
		1226	1980-89		
		1864	1990-98		
		3688	1973-98		
		2194	1973-98		
		1494	1973-98		
Harris & Ravenscraft (1991)	US	1273	1970–1987	Average bid premium	In cross-border deals targets gain to a larger degree than in domestic deals.
Aybar & Ficici (2009)	Emerging-market multinationals (EMMs)	433	1991–2004	CAR	Found for their sample of 433 emerging market firm acquisition to acquisitions that the market reaction to acquisitions of targets in developed markets is positive, while it is negative to acquisitions in other emerging market countries.
Gugler, Mueller, Yurtoglu and Zulehner (2003)	Worldwide	1250	1981-1998	Profit/Assets, Sales/Assets	The results show that mergers on average do result in significant increases in profits, but reduce the sales of the merging firms.

3. Methodological Aspects

In this chapter will be covered the methodology used in the study. The framework is the research developed by Bertrand and Betschinger (2012). They investigated the long-term impact of domestic and international acquisitions, initiated by Russians firms, on the operating performance.

3.1 Research Question

Before explore the empirical part of this dissertation it is important to mention again the research question that was presented in the introductory chapter. The main aim of this work is to answer to three sub questions.

First of all we will try to understand if and under which conditions M&A deals benefit the performance of energy industry acquirers in Russia. Secondly, it is important to know which are the deal drivers in Oil and Gas industry in Russia. Finally our main intention is to analyze how different deal and firm level characteristics moderate the effects of acquisitions.

In order to answer these questions we will develop a model which explains the operational performance of a company through several firm and deal characteristics, which will be explained in detail below.

3.2 Sample

At this point we are facing one main problem, the availability of the data. Since the major part of Russians companies is not listed, we need to develop our analysis on accounting information. In order to do so, we intend to extract information about Russians acquirers from *Orbis* database. Before that, we will use *Zephyr* database to identify Russian acquirer firms.

Zephyr and *Orbis* are both provided by Bureau Van Dijk. Zephyr is the most comprehensive database of deal information, contains information on M&A, IPO, private equity and venture capital deals. In addition to the deal overview and documentation about it, this database contains also some information about deal

interveners**.** It covers over thirteen years' of history for deals around the world, and an even longer history for deals with a European counterpart. *Zephyr* was used to identify companies that in the selected time period (1999-2013) made merger or acquisition deals on the buyer role.

On the other hand, *Orbis* contains information from a diverse range of sources on nearly 150 million companies worldwide, both listed and unlisted companies, with an emphasis on private company information. This is a plus for two reasons. First, because the financial market in Russia is not very liquid and there are only few companies that are listed[4]; and second, because private company information is more difficult to obtain as the legal obligation to file accounts varies widely from country to country. *Orbis* was used to obtain accounting information on selected companies.

The idea is to select a panel design where firm and deal characteristics will be modeled as time-varying influences on performance. Therefore we will analyze a period of 15 years, from 1999 until 2013, to give us a sufficient time window to access operational performance of acquirers. Moreover, we will limit our sample to acquisition with more than 50% of equity, because only in these cases it is likely the observable impact of the bidder.

Note that within the analysis there have been selected companies from energy sector (NACE Rev.2) based in Russia. Initially was selected a sample of 1,781 deals from 2002 to 2011 carried out by 445 Russian companies. However, in the progress of our analysis it was necessary to clean the data and reduce our sample. We omit 39 companies due to problems of lack of the accounting data and acquisition reporting. Also, we limit our analysis to acquisitions with single acquirer in order to avoid problems in data processing and exclude from our sample financial institutions as partners and international acquirers, taking away from our initial sample another 182 companies.

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[4] Financial markets in emerging countries have several structural deficiencies, such as very high concentration and low liquidity.

Following the exercise described above we get 224 companies. Our final sample is composed by the complete information on the explanatory variables available for the period from 1999 until 2013.

In order to trace the acquisition behavior of the energy sector in Russia we counted the number of deals per year and compared it with the overall period average (178,1). In our sample we are able to identify two peaks of M&A activity, first in 2004 and second one in 2008, both of them correspond to the financial crisis. The decrease in the number of deals only in the years following the peaks can be explained by the fact that in 2004 and 2008 there were pre-crisis deals still ongoing. The drop of economic growth leads to the lack of funding and consequently companies are obligated to rethink their business strategies and tighten their belts.

Table 3: Evolution of number of deals per year in Russian Energy Sector[5]

2002	88	
2003	100	↑
2004	159	↑
2005	114	↓
2006	107	↓
2007	237	↑
2008	358	↑
2009	289	↓
2010	214	↓
2011	115	↓

Looking from the other angle to our sample, we are able to identify other phenomenon on the Russian market for corporate control, multiple acquisitions. In our final sample, of the 224 acquirers, 103 were single acquirers (in our search period 103 in 224 companies held only one deal), while 74 have acquired at least four firms. Some of the firms have 67, 70 or even 80 deals between 2002 and 2011. However there is one

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[5] NACE Rev.2: 06 - Extraction of crude petroleum and natural gas, 351 - Electric power generation, transmission and distribution, 352 - Manufacture of gas; distribution of gaseous fuels through mains.

company which beats everyone, Gazprom, it is a Russian energy company, the largest company in Russia and is the largest exporter of natural gas in the world, which gives it the fifteenth position in the ranking of world's largest companies. Over the studied period, Gazprom had acquired 144 companies.

It is obvious that Russian market for corporate control evolved exponentially. However, in terms of internationalization there are still many obstacles. In our sample, in about 93% of deals the target company's country was Russia. Of the share of cross-border acquisitions 3% of targets were based within countries that formerly were part of the Soviet Union, these deals can be used as a proxy for domestic acquisitions because of the cultural proximity, which facilitate the pre- and post-deal.

Overall, only 4% of our sample are cross-border deals, which is very small number, however can be explained by the industry in analysis. Russia is very rich in natural resources, and there exists a lack of incentives to go abroad while they have it under their nose.

We can explain the short number of cross-border deals in the sector by explaining that the major reasons for firms to move abroad are to acquire additional resources and skills that are not available on the domestic factor market, however in Russia there is a huge amount of natural resources and opportunities to explore and this way centralize the business.

Regarding to the M&A variables we considered several count variables. To capture the effects of the M&A deals we counted for each deal the number of deals before and after it in order to see the long-term impact. We have to take into account that market for corporate control is a very fresh phenomenon in Russian economy and the data availability and natural growth rate are both influenced by this. We used variable that count number of all deals together and another that count separately for domestic and cross-border deals. Within the second one we also distinguished between deals with target being from a former Soviet Union country and the rest of the world in order to analyze the relation between cultural proximity and the operational performance after the deal.

3.3 Model

Besides the fact that share price changes are based on the information available on the stock market and sometimes are affected by another factors as market swings, fads, euphoria, in our particular case we have the problem of an emerging country market, undeveloped and with low liquidity.

In order to overcome this problem and to answer to the research questions we followed the empirical analysis carried out by Bertrand and Betschinger (2012). We examined the operating rather than stock market returns-based performance and we restricted our long-term performance analysis to an accounting profitability measure, return on assets (RoA), an indicator of how profitable a company is relative to its total assets. RoA gives an idea as to how efficient management is at using its assets to generate earnings. This approach also allows us to study private and unlisted companies which constitute the majority of our sample.

RoA is calculated by dividing a company's EBIT by its total assets. Financial analysts often confuse EBIT to operating income. Indeed, these values are often so closely related they can be used interchangeably without causing any accounting issues. Besides, this way we exclude the possibility of different applications of accounting methods regarding depreciation and amortization which can lead to the problem of comparability through firms. Following that we assume the following function:

$$P_{i,t} = f(X_{i,t}; A_{i,t}; T_t)$$

Where, profitability of a company i at time t is a function of a vector of firm determinants of performance $(X_{i,t})$, vector of count variables to measure the contemporaneous and lagged effects of acquisition of the firm $(A_{i,t})$, and year dummy for the macroeconomic shocks (T_t). Note that all of our monetary data is expressed in thousands of euros.

By combining several variables, which will be explained in detail later in this section, it was possible to create three models:

Model I

$$RoA_{i,t} = \alpha + \beta_1 RoA_{i,t-1} + \beta_2 log(Size)_{i,t} + \beta_3 Liquidity\ Ratio_{i,t} + \beta_4 Solvency\ Ratio_{i,t}$$
$$+ \beta_5 Market\ Share_{i,t} + \beta_6 State\ Owned\ Companies_{i,t}$$
$$+ \beta_7 N^\circ\ of\ Domestic\ Deals_{i,t} + \beta_8 N^\circ\ of\ Cross\ border\ Deals_{i,t} + \varepsilon_{i,t}$$

Model II

$$RoA_{i,t} = \alpha + \beta_1 RoA_{i,t-1} + \beta_2 log(Size)_{i,t} + \beta_3 Liquidity\ Ratio_{i,t} + \beta_4 Solvency\ Ratio_{i,t}$$
$$+ \beta_5 Market\ Share_{i,t} + \beta_6 State\ Owned\ Companies_{i,t}$$
$$+ \beta_7 N^\circ\ of\ Total\ Deals_{i,t} + \varepsilon_{i,t}$$

Model III

$$RoA_{i,t} = \alpha + \beta_1 RoA_{i,t-1} + \beta_2 log(Size)_{i,t} + \beta_3 Solvency\ Ratio_{i,t} + \beta_4 Market\ Share_{i,t}$$
$$+ \beta_5 State\ Owned\ Companies_{i,t} + \beta_6 N^\circ\ of\ Domestic\ Deals_{i,t}$$
$$+ \beta_7 N^\circ\ of\ Cross\ border\ Deals_{i,t} + \varepsilon_{i,t}$$

In order to take into account the dynamic effects in performance we included on our firm determinants vector the lagged dependent variable. This way we are telling that profitability of a company can be predicted based on its past values.

In addition to that, we assumed that the logarithm of the firm's turnover can be used as a proxy of the firm size. We expect a positive relation between firm size and profitability due to the concept known as economies of scale which can be found in the traditional neo classical view of the firm. In contrast with this, alternative theories warn that large companies are under the control of managers pursuing an aim of self-interest and utility maximization which leads to the management that can replace the companies' goals by personal profit maximization.

Table 4: Formulas summary

RoA	$\dfrac{EBIT}{Total\ assets}$
Firm size	$log(Turnover)$
Solvency ratio	$\dfrac{Current\ and\ non\ current\ liabilities}{Total\ assets}$
Liquidity ratio	$\dfrac{Current\ assets - Stocks}{Current\ liabilities}$
Market share	$\dfrac{Company's\ turnover}{Total\ sample\ turnover}$

In order to measure the firm performance, we also used the solvency ratio that gives us the measure of the ability of a company to meet its debt and other obligations. In other words, it indicates if a company owns more that it owes. To calculate the ratio we used the sum of current and non-current liabilities to a firm's total assets. This way it is possible to see the percentage of a company's assets that have been financed with debt. The lower solvency ratio of a company indicates a greater likelihood of company to externally finance firm activities and therefore it features financial resources to more profitable deals. Hereby we expect a negative relation of the solvency ratio with the profitability of a company.

Liquidity ratio is another term that refers to the financial health of a company, the difference from the previous ratio is that liquidity refers to the ability to pay short-term obligations. Besides that, represents the capability of the company to sell assets promptly and raise cash. To calculate the ratio we used the difference between current assets and stocks to current liabilities. This ratio measures the ability to meet company's short-term obligations with its most liquid assets. A high liquidity ratio represents a

surplus of financial resources that can be used in two different ways, either to invest well and increase company's profitability or it can be spent taking into account vain manager desires. In this way we are not able to identify any trend until see both possible effects.

Apart from the ratios described above we also included the market share of a firm. At this point we assumed that the total sales of our sample correspond to the total sales of the industry due to the lack of reliable data. This indicator was included to provide a general idea of the size of a company to the sample and its competitors since getting an accurate measure of market share is very difficult. However, by comparing the company's sales growth with the industry´s growth we can see whether market share of a company is increasing or decreasing. Market share is a key indicator of the effectiveness of the company's strategy, so it is expected positive relation with operating performance. However, we have to be aware of the agency conflicts and the influence of the political interests in the state owned companies, which can lead to the negative relation between the performance of the company and the market share of the same.

Given the importance of the state enterprises in Russia it is important for our analysis to include a variable which reflects this information. To this end, we used a tool of the database *Orbis* and extracted the GUO - The GUO is the Global Ultimate Owner which corresponds to the minimum percentage that must characterize the path from a subject Company up to its Ultimate owner: 50.01%. We used a dummy variable and attribute the value 1 for Public authority, State, Government type of company. On the other hand the zero value is related to private companies. The conflict of interest resultant from the state's dual role as a shareholder and regulator can influence the content of corporate laws to the detriment of outside investor protection and efficiency and can lead to the lower performance via lack of incentive.

Regarding to the measurement of M&A activity, dependent on the model, the vector $A_{i,t}$ includes several count variables in order to access whether the M&A activity have impact on the operational performance of the intervenients. With the view to catch the impact of the deals on long term, we have to use a cumulate number of acquisitions of

each firm for each year and the three previous years. In our base estimation we used one or two of those count variables. For example, in the model I we used two count variables, one counting the number of domestic M&A deals and other counting the number of cross-border deals. On the other hand, in the model II it was used only one variable counting the total number of M&A deals for each company. However, in order to analyze the influence of deal characteristics on operational performance we estimated three more models where we included other count variables regarding the type of industry and the country of the target company.

Modelo IV

$$RoA_{i,t} = \alpha + \beta_1 RoA_{i,t-1} + \beta_2 log(Size)_{i,t} + \beta_3 Solvency\ Ratio_{i,t}$$
$$+ \beta_4 Number\ of\ domestic\ M\&A's_{i,t}$$
$$+ \beta_5 Number\ of\ cross\ border\ M\&A's\ in\ non\ former\ USSR\ countries_{i,t}$$
$$+ \beta_6 Number\ of\ cross\ border\ M\&A's\ in\ former\ USSR_{i,t} + \varepsilon_{i,t}$$

Modelo V

$$RoA_{i,t} = \alpha + \beta_1 RoA_{i,t-1} + \beta_2 log(Size)_{i,t} + \beta_3 Solvency\ Ratio_{i,t}$$
$$+ \beta_4 Number\ of\ non\ horizontal\ M\&A's_{i,t}$$
$$+ \beta_5 Number\ of\ horizontal\ M\&A's_{i,t} + \varepsilon_{i,t}$$

Modelo VI

$$RoA_{i,t} = \alpha + \beta_1 RoA_{i,t-1} + \beta_2 log(Size)_{i,t} + \beta_3 Solvency\ Ratio_{i,t}$$
$$+ \beta_4 Number\ of\ domestic\ non\ horizontal\ M\&A's_{i,t}$$
$$+ \beta_5 Number\ of\ domestic\ horizontal\ M\&A's_{i,t}$$
$$+ \beta_6 Number\ of\ cross\ border\ horizontal\ M\&A's_{i,t}$$
$$+ \beta_7 Number\ of\ cross\ border\ non\ horizontal\ M\&A's_{i,t} + \varepsilon_{i,t}$$

3.4 Methodology

One of the advantages of using panel data is the relief of individual heterogeneity (distinguishing characteristics of individuals). However, this type of base for analysis presents its own problems since the amount of information increases dramatically through the cross sections.

In our analysis we have to be aware of the fact that strategy choice is endogenous and self-selected, since those are a different perspective of the same concept - firms select strategies based on their characteristics and industry boundaries, meaning that it is expected that companies select the deals that result in the greatest expected return. As Shaver (1998) we used a specific econometric method that has been developed to account for this effect (Heckman 1979). This author highlighted how self-selection on unobservable characteristics can bias strategy performance estimates. Note that empirical models that do not account for this and regress performance measures on strategy choice variables are potentially misspecified and their conclusions might be incorrect.

In other hand, dynamic models show the most common nature of economic relations. In general this relationship can be represented by a dependent variable offset as a regressor, as is the case of our model. This makes the OLS estimators biased (due to the lagged dependent variable correlation with the error) and requires the choice of instrumental variables to ensure consistency and the efficiency of estimation (Cameron and Trivedi 2010).

In order to overcome this situation we will use the IV method. The regression of instrumental variables (IV's) consists on a method that provides consistent estimators when the error and a repressor variable are correlated (Mátyás 1999). This correlation is determined by three reasons: omission of relevant variables in the model, errors in variables (inaccuracy in the calculation) or simultaneity (Y influences X, but X also influences Y).

However, IV's have to meet two conditions: they have to be relevant (should be correlated with the explanatory variable) and have to be exogenous (it cannot be correlated with the error).

The choice of the method of estimation should be made based on their asymptotic properties. Since our sample meets the key condition for the use of GMM estimator, which following the Hansen (1982) have to be a large sample for a relatively short period of time, we will follow the model specified by Bertrand and Betschinger (2012).

However, as Mátyás (1999) notes, the viability of the past values of the dependent variable as instruments require a number of restrictions on the covariance between the random disturbance term, the individual effect and the initial observations of the dependent variable.

To correct heterogeneity Anderson and Hsiao (1982) propose to rewrite the model in first differences using as a tool for our lagged dependent variable the second order lag. In addition to this, Arellano and Bond (1991) propose a wider range of instruments including all past values of the dependent variable available. Moreover, Arellano and Bover (1995) and Blundell and Bond (1998) developed a system estimator.

According to the theory, this method requires that a certain number of times of conditions are specified for the model, which would be functions of model parameters and data, so that their expectation is zero to the true values of the parameters. Thus, the estimator minimizes a particular standard sample average of the moment conditions. This technique allows us to handle the autocorrelation problems and heteroscedasticity possibly present in this sample (Arellano and Bover, 1995; Blundell and Bond, 1998).

In econometric terms, we can say that the GMM estimators are known as consistent, asymptotically normal and efficient in the class of all evaluators who do not use any extra information beyond that contained in the moment conditions.

Following Bertrand and Betschinger (2012), we apply the GMM estimator in order to overcome the reverse causality and correlation of the choice variable with the unobservable in the error term. The GMM estimator does not entail complete awareness

of the distribution of the data and are only needed indicated moment's resultant from a core model.

Nevertheless, multicollinearity is a common issue in regressions. It occurs when the independent variables have exact or almost exact linear relationship. The R^2 indicator is a useful tool in the detection of multicollinearity. If it is high but none of the regression coefficients is statistically significant it indicates the existence of a high linear relationship between independent variables. The implications in our work of the existence of multicollinearity can be of high standard errors or even the impossibility of any estimation if multicollinearity is perfect.

Besides multicollinearity we can find other common problems in a regression as heteroscedasticity (strong dispersion of the data), autocorrelation and endogeneity. The GMM estimator has already taken the latter into account. Regarding the heteroscedasticity, its detection can be performed by means of a White Test, which is a residual test. The autocorrelation is the correlation that exists between a time series values observed at different time instants. We can use the Durbin-Watson test to assess the existence of autocorrelation on our data.

4. Results

In this chapter we are going to present our estimations with the respective obtained results. In the first section will be presented the estimation of the main model while the second section will focus on the deal characteristics in order to answer to our research questions mentioned above.

4.1 Main effects

In order to frame the results, in Table 5 are shown the descriptive statistics and correlations of the variables used in the regression. Table 6 contains the main results of the estimation.

Following the table 6, in general way all models show that independent variables trail our expectations. Looking to the third model variation, it can be observed that the lagged dependent variable, size of the firm and cross-border deals have positive effect on the operational performance. On the other hand, solvency ratio, market share of the company, state ownership and domestic deals have negative effect on our dependent variable.

Regarding the market share coefficient, it is important to refer that in this specific case, the energy market in Russian economy, the major companies are state-owned. The reason behind this is that the government wants to manipulate politically the most important industry of the country according to its interests. This leads to a management that is more concerned in political needs and government strategies instead of improvement of operational performance, which leads to a negative impact of market share on Return on Asset.

Note that the state ownership variable is not statistically significant in our estimation, showing that it is not relevant on the long term performance analysis. The same happens for the count variable of domestic deals.

Given the reduced number of deals for the years previous to 2005, we limited our estimation to 8 years, from 2005 until 2013. This way we are taking into account the

most important period for the market of corporate control in Russia and put aside the period with low M&A activity and with possible information fails.

More importantly in our analysis, the number of cross-border deals has a positive effect on the operational performance of acquirers. This way, our preliminary results show the possibility of performance improvement for acquirers in energy industry as they perform cross-border deals. This positive influence can represent the contrast between factors that drive domestic versus cross-border deals within energy industry. It is important to highlight the fact that there are tax benefits for participants in an agreement between two different states within Russia.

In the next section we will analyze more in detail how different deal characteristics affect operational performance.

Table 5: Summary statistics and correlations

	Mean	Standard Deviation	Max	Min	Number of M&As	Liquidity ratio	(Log) size	Market share	Number of cross-border M&As	Number of domestic M&As	Solvency ratio	State ownership
Number of M&As	4.728	11.092	91.000	0.000	1.000							
Liquidity ratio	48.065	770.427	18,991.760	0.030	0.033	1.000						
(Log) size	19.342	2.407	25.238	5.503	0.301	0.035	1.000					
Market share	0.013	0.054	0.763	0.000	0.391	-0.004	0.343	1.000				
Number of cross-border M&As	0.381	2.154	29.000	-5.000	0.551	-0.007	0.194	0.427	1.000			
Number of domestic M&As	4.346	10.067	75.000	0.000	0.984	0.038	0.290	0.339	0.393	1.000		
Solvency ratio	0.559	0.457	7.070	0.000	-0.129	-0.074	-0.236	-0.055	-0.074	-0.126	1.000	
State ownership	0.404	0.491	1.000	0.000	0.252	0.073	0.247	0.208	0.105	0.255	-0.249	1.000

Table 6: Main effects of acquisitions

	I	II	III
Return on assets t-1	0.289593***	0.290549***	0.141269***
	(0.014467)	(0.013235)	(0.005041)
(Log) size	0.000154***	0.000147***	0.073563***
	(4.52E-05)	(4.13E-05)	(0.000736)
Liquidity ratio	-5.85E-08	-3.95E-08	
	(9.14E-08)	(8.77E-08)	
Solvency ratio	0.000714***	0.000716***	-0.135856***
	(1.44E-05)	(1.38E-05)	(0.003479)
Market share	-0.001259	0.001351	-6.563865***
	(0.005245)	(0.005893)	(2.338260)
State-owned company	0.000406	0.000120	-1.969317
	(0.001234)	(0.001119)	(2.057006)
Number of M&A's		-6.11E-06*	
		(3.17E-06)	
Number of domestic M&A's	-6.63E-06*		-0.000499
	(3.95E-06)		(0.000365)
Number of cross-border M&A's	-1.01E-05		0.011705***
	(1.39E-05)		(0.003876)
Cross-sections included	113	113	175
Periods included	8	8	8
Instrument rank	53	52	66
p-value of Hansen statistic	0.202991	0.189938	0.125082
p-value of AR1	0.0000		
p-value of AR2	0.9456		

Notes: The dependent variable is EBIT normalized with total assets. Results reported in this table have been obtained using system GMM estimations using the two-step estimation including the Windmeijer correction to the reported standard errors. The lagged dependent variable and the M&A variables are instrumented. Year and industry dummies are not reported. AR1 and AR2 report the p-values of the tests for first-order and second-order serial correlation in the first-differenced residuals. The Hansen statistic reports the p-value of the Hansen test of over-identifying restrictions. Data is for 2005–2013. Robust standard errors are in parentheses.
Significance at the 10% level   *
Significance at the 5% level   **
Significance at the 1% level   ***

4.2 Deal characteristics

Table 7 presents our estimations based on several deal characteristics. The first column focus on the target country and this way distinguish cross-border deals on our sample between deals with target from former USSR countries and the rest of the world. Our main finding here is that only the cross-border deals with target in former USSR countries have significant negative impact on the operational performance of Russian acquirers.

In the base model the cross border deals have positive effect. Nevertheless if we unfold it in former USSR countries and the rest of the world, it can be seen that the effect passes to negative for the target deals from the former USSR countries. This can be explained by the fact that the energetic industry is submissive to the will of state interests. Many acquisitions in these countries are made due to geographic proximity and the necessity of creation of new infrastructures with the intent of provision of support to the supply of natural resources, and not necessarily check the increase of the buyer's performance.

Domestic deals and deals with targets in non-former USSR countries have no longer impact on our dependent variable. Anti-competition and rent-seeking purposes can explain this result, given the cultural and geographic proximity between Russia and this group.

The second and third columns take into account the industry as a deal characteristic and distinguish between horizontal and vertical deals for domestic and cross-border M&A separately. In general way, horizontal deals exert negative impact on the dependent variable as opposed to vertical deals, however both significant. By looking more closely into the third column, our main observation is that cross-border deals within the same industry is the only variable that have significant negative impact on the operational performance. In order to understand this estimation results it is important to consider the industry in analysis, where horizontal deals are triggered with the purpose of creating monopolies and in case of cross-border deals we have to highlight the geopolitical issues.

Table 7: The role of deal-level characteristics

	I	II	III
Return on assets t-1	0.148430***	0.134495***	0.151210***
	(0.004820)	(0.004873)	(0.005125)
(Log) size	0.069133***	0.087995***	0.069005***
	(0.000912)	(0.000864)	(0.000951)
Solvency ratio	-0.104095***	-0.133557***	-0.101041***
	(0.004344)	(0.005292)	(0.004293)
Number of domestic M&A's	0.000257		
	(0.000290)		
Number of cross-border M&A's in non-former USSR countries	0.001229		
	(0.003933)		
Number of cross-border M&A's in former USSR countries	-0.011568***		
	(0.002616)		
Number of non-horizontal M&As		0.000741***	
		(0.000275)	
Number of horizontal M&As		-0.003322***	
		(0.001344)	
Number of domestic non-horizontal M&A's			-0.000979
			(0.002479)
Number of domestic horizontal M&A's			-0.001418
			(0.001160)
Number of cross-border horizontal M&A's			-0.022677***
			(0.004785)
Number of cross-border non-horizontal M&A's			0.001413
			(0.002518)
Cross-sections included	181	175	181
Periods included	12	8	12
Instrument rank	73	65	74
p-value of Hansen statistic	0.220173	0.279542	0.211735
p-value of AR1	0.9623	0.5358	
p-value of AR2	0.9407	0.5661	

Notes: The dependent variable is EBIT normalized with total assets. Results reported in this table have been obtained using system GMM estimations using the two-step estimation including the Windmeijer correction to the reported standard errors. The lagged dependent variable and the M&A variables are instrumented. Year and industry dummies are not reported. AR1 and AR2 report the p-values of the tests for first-order and second-order serial correlation in the first-differenced residuals. The Hansen statistic reports the p-value of the Hansen test of over-identifying restrictions. Data is for 2005–2013. Robust standard errors are in parentheses.

Significance at the 10% level   *
Significance at the 5% level   **
Significance at the 1% level   ***

5. Conclusion

Our main findings are relied on the positive effect of cross-border deals on the operational performance of Russian acquirers. However, when we look closer into the deal characteristic, we found that the positive effect is no longer significant. But cross-border deals within the same industry and in former USSR countries have significant negative impact on the performance of acquirers. In order to understand this estimation results it is important to consider the industry in analysis, where horizontal deals are triggered with the purpose of creating monopolies and in case of cross-border deals we have to highlight the geopolitical issues.

According to Forbes magazine (2011), Russia's long-term challenges include a shrinking workforce, a high level of corruption, difficulty in accessing capital for smaller non-energy companies and poor infrastructure in need of large investments. The legal framework in relation to M&A deals is still developing with the growing adherence of the national companies when considering the effects and benefits of the strategy. However, Russian law still shows some rigidity and ambiguity in the area of M&A. Besides, the market for corporate control is less sophisticated, regulatory regime is complex, unclear, unpredictable and yet of rigid nature (Goldsblat 2010).

It is necessary to point out, especially in the case of emerging markets such as Russia, the possible increase in the risk of having incomplete samples or severe problems on data collection, as well as the importance of measurement errors. Given the institutional flaws and the specifics of Russian law, the available financial information is expected to be unreliable.

However, we emphasize the necessity of research in emerging markets since the comparison of the results of conducted studies with the studies in the developed markets can assist the understanding of the behavior of companies, investors and markets. Russian market is one of the largest and most dynamic of all in Eastern Europe, yet it is very different from the developed economies markets.

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