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Master in Corporate Finance

**PERFORMANCE OF MERGERS AND ACQUISITIONS ON THE RUSSIAN STOCK  
MARKET**

Master's Thesis by the 2<sup>nd</sup> year student  
Concentration — Master in Corporate Finance  
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## АННОТАЦИЯ

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Научный руководитель	Смирнов Марат Владимирович
Описание цели, задач и основных результатов	<p>Российский рынок слияний и поглощений зародился в середине 1990-х годов, и с того времени он постепенно становился все более устойчивым и цивилизованным. Однако российский рынок сравнительно малоизучен, и на нем сохраняется ряд проблем, связанных с результативностью слияний и поглощений. Поэтому цель данного исследования - изучить факторы, связанные с рыночной результативностью слияний и поглощений в России, чтобы облегчить процесс слияний и поглощений для отечественных компаний, а также предоставить практические рекомендации инвестиционным банкирам, менеджменту и потенциальным инвесторам.</p> <p>Для достижения выбранной цели был проведен анализ российской и зарубежной литературы, сформулированы и протестированы гипотезы исследования на выборке российских компаний, осуществивших слияния и поглощения на российском рынке в период с 2005 по 2017 года. На основе полученных результатов были сформированы практические рекомендации.</p> <p>Результаты исследования демонстрируют, что компании, которые проводят слияния и поглощения в аналогичных отраслях, в среднем, показывают более высокую результативность, поэтому, с учетом контекста, такие сделки предпочтительнее. Более того, наблюдается обратная взаимосвязь коэффициента P/V и результативности слияний и поглощений на российском рынке, а потому инвесторам нужно опасаться переоценки. Кроме того, компании, которые проводят сделки M&amp;A в период рецессии, показывают большую результативность, чем те компании, которые инвестируют в благоприятные периоды. Наконец, отрицательная взаимосвязь между размером фирмы и результативностью слияний и поглощений может означать, что более крупные компании более легкомысленно относятся к проведению слияний и поглощений, а потому нуждаются в более тщательном анализе мотивов и причин данного вида сделок.</p>
Ключевые слова	Результативность слияний и поглощений, российский рынок, мотивы слияний и поглощений

## ABSTRACT

Master Student's Name	Elina T. Sultangulova
Master Thesis Title	Performance of mergers and acquisitions on the Russian stock market
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Main field of study	38.04.02 Management, Master in Corporate Finance (MCF)
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Academic Advisor's Name	Marat V. Smirnov
Description of the goal, tasks and main results	<p>The Russian market for mergers and acquisitions emerged in the mid-90s, and since then it has gradually become more stable and civilized. However, the Russian market is largely unexplored, and it still has a number of problems related to the performance of mergers and acquisitions. Therefore, the purpose of this master thesis is to investigate the factors related to M&amp;A market performance in Russia in order to facilitate the M&amp;A experience of companies and to provide practical recommendations to investment bankers, management, and potential investors.</p> <p>To achieve the chosen goal, an analysis of Russian and foreign literature was carried out, the hypotheses of the study were formulated and tested on a sample of Russian companies that carried out mergers and acquisitions in the Russian market in the period from 2005 to 2017. On the basis of the results obtained, practical recommendations were formulated.</p> <p>The research results show that companies that conduct mergers and acquisitions in similar industries, on average, perform better, therefore, depending on the context, such deals are preferable. Moreover, there is an inverse relationship between the P / B ratio and the performance of mergers and acquisitions in the Russian market, and therefore investors need to be wary of overvaluation. In addition, companies that conduct M&amp;A transactions during a recession perform better than companies that invest in good times. Finally, a negative relationship between firm size and the performance of mergers and acquisitions may mean that larger companies are more careless about mergers and acquisitions, and therefore need a more thorough analysis of the motives and reasons for this type of deals.</p>
Keywords	M&A performance, Russian market, M&A motives

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## INTRODUCTION

In 2020 the Russian M&A market demonstrated a decrease in deal activity. The number of deals fell by 15% to 567 in 2020 compared to 2019 and total deal value declined by 5% to 59.7 billion USD. However, in such circumstances (pandemic, lockdown, drop in oil prices, the anticipation of new sanctions) the Russian M&A market performed relatively well. Thus, investors and management were able to adapt their business strategies to the new conditions and discover new opportunities.

The Russian M&A market is still developing and characterized by the following features:<sup>1</sup>

- high level of overpayment for target companies;
- decline in the volume of transactions over the last 8 years
- low efficiency of M&A deals from the point of view of shareholders.

The aforementioned problems can be solved by a deeper understanding of the processes in the Russian M&A market. It is known that the Russian market is severely understudied, in comparison with the North American and European regions. The results obtained in developed foreign markets are not applicable to the Russian context, since many studies confirm that M&A is local. Even in the US market, there is no consensus on what the M&A performance is and what factors affect it. Some researchers believe that the M&A performance can be measured using either accounting or market measures. Others claim that M&A is a complex and multidimensional phenomenon that cannot be measured solely by accounting or market indicators, but motives and context play a very important role as well.

Factors that influence M&A performance are also varied and classified into firm, industrial and macroeconomic. However, researchers rarely investigate the impact of macroeconomic factors on M&A performance. Meanwhile, there is no evidence that macroeconomic factors do not influence the M&A process. In my thesis, this gap will be eliminated and the context of the environment will be considered. In addition, unlike many other M&A studies, this work aims to analyze the motives behind M&A, which can be divided into two main groups: knowledge and property-based motives.<sup>2</sup> In recent years the percentage of knowledge-based M&As increased in the Russian market. Analysts expect that technology sectors such as FoodTech, EdTech, HealthTech, MediaTech, data analytics, and cloud solutions will continue to attract investor attention next year. Meanwhile, the Russian market experiences a lack of researches on knowledge M&A performance.

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<sup>1</sup> Pashtova, L. G., & Maimulov, M. S. (2020). M&A Market Efficiency in Russia: Problems and Prospects. *Finance: Theory and Practice*, 24(1), 76-86.

<sup>2</sup> Gerbaud, R. R., & York, A. S. (2007). Stock market reactions to knowledge-motivated acquisitions. In *Advances in mergers and acquisitions*. Emerald Group Publishing Limited.

The **object** of the Master Thesis is the M&A performance on the Russian stock market in the short-term and long-term perspective. The decision to study both in the short and long-term was made due to a lack of consensus on which approach best evaluates M&A performance. Researchers mainly analyze the short-term results of the acquirer's activity, since they imply that the market reacts immediately and no other events affect the results. However, the buyer may have long-term goals, in this case, short-term time horizon is not applicable.

It should be noted here that M&A performance refers to the performance of the acquirer or joint venture, since on target companies post-M&A performance consistent results have been obtained. The target's stock price rises sharply after the announcement of the acquisition.<sup>3</sup> So, the **subject** of the research is the sample of Russian companies that have proceeded with the M&A.

**The research goal** of the thesis is to investigate the factors related to M&A market performance in Russia in order to facilitate the M&A experience of companies and to provide practical recommendations to investment bankers, management, and potential investors. The following steps were taken to achieve the research goal:

1. Study of the 'M&A' concept and comparison of the Russian and foreign interpretations;
2. Definition of the main approaches to the classification of M&A deals;
3. Investigation of the motives for M&A deals and the criteria for their classification;
4. Analysis of the current state and development trends of the Russian M&A market;
5. Analysis of the main approaches to measuring M&A performance;
6. Analysis of factors that can relate to M&A performance;
7. Justification and description of the research methodology and data collection;
8. Conducting empirical research to reveal relationships between M&A performance and some factors related to company, industry, or macroeconomic environment;
9. Analysis of the results and drawing up theoretical and practical conclusions.

This research is based on the work of experts in the field of mergers and acquisitions, business valuation, and corporate finance. A significant portion of the M&A literature is devoted to the study of the American market, therefore, most of the studies reviewed in this work are devoted to foreign markets. The following authors can be distinguished: Doukas and Lang (2003), Finkelstein and Haleblan (2002), Francoeur (2006), Fröhls et al. (1998), Gerbaud and York (2007), Lien and Klein (2006), Nagano and Yuan (2007), Seth et al. (2002).

The work contains three chapters. The first chapter examines the theoretical aspects of M&As: the interpretation of the concepts of 'merger' and 'acquisitions', the classification of deals, and an overview of their main motives. It also includes the analysis of the current state of the

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<sup>3</sup> Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. *Journal of Strategy and Management*.

Russian M&A market. Finally, this chapter explores M&A performance valuation measures and drivers of M&A performance. The chapter concludes with the hypotheses of the research.

The second chapter begins with a description of the methodology and sampling. After that, the hypotheses of the study were tested on a sample of Russian companies that carried out mergers and acquisitions on the Russian market in the period from 2005 to 2017. The total number of observations in the sample was 93. Based on the results, theoretical and practical implications were formulated.



## CHAPTER 1. MERGERS AND ACQUISITIONS ON THE RUSSIAN STOCK MARKET

### 1.1. The concept of mergers and acquisitions

The concept of "mergers and acquisitions" has a different meaning in Russian and international scientific literature. According to the international interpretation, 'takeover', 'merger', and 'acquisition' are used synonymously, although there is a difference in the economic implications of a takeover and a merger.<sup>4</sup> Singh (1971) defines takeover and acquisition as activities by which acquiring firms can control more than 50% of the equity of target firms, whereas in a merger at least two firms are combined with each other to form a "new" legal entity. Hampton (1989) claims that "a merger is a combination of two or more businesses in which the only one of the corporations survives". Using simple algebra, Singh's (1971) definition of merger can be represented as  $A + B = C$ , meanwhile, Hampton's (1989) can be symbolized by  $A + B = A$  or  $B$  or  $C$ .<sup>5</sup>

The different degrees of negotiating power of the acquirer and target is important in understanding these definitions. Negotiating power is usually related to the size or wealth of the company. When the power is equally distributed between two parties, it is likely that a new enterprise will be created as a consequence of the deal. However, in Hampton's (1989) definition, one of two partners is dominant.

The ambiguity of the definition increases when the word 'negotiating power' is replaced by 'friendliness' and 'chief beneficiary'<sup>6</sup>. The negotiating process of mergers and acquisitions is usually 'friendly' where all parties involved are expected to receive benefits, meanwhile, takeovers are frequently hostile and conducted in an aggressive atmosphere. From this point of view, the term 'acquisition' is synonymous with 'merger', and the term 'takeover' is closer to that of Singh's (1971).

Regarding the Russian interpretation of these terms, our legislation does not fully consider mergers and acquisitions. In Article 16 of the Federal Law "On Joint Stock Companies", the term 'merger' is defined as the emergence of a new company by transferring to it all the rights and obligations of two or more companies with the termination of the latter." Thus, the necessary condition for a merger, according to the law, is the termination of the activities of the integrating parties. In this case, the algebraic expression takes the form  $A + B = C$ , which in Western literature

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<sup>4</sup> Singh, A., & Singh, T. D. (1971). Take-overs: Their Relevance to the Stock Market and the Theory of the Firm (Vol. 19). CUP Archive.

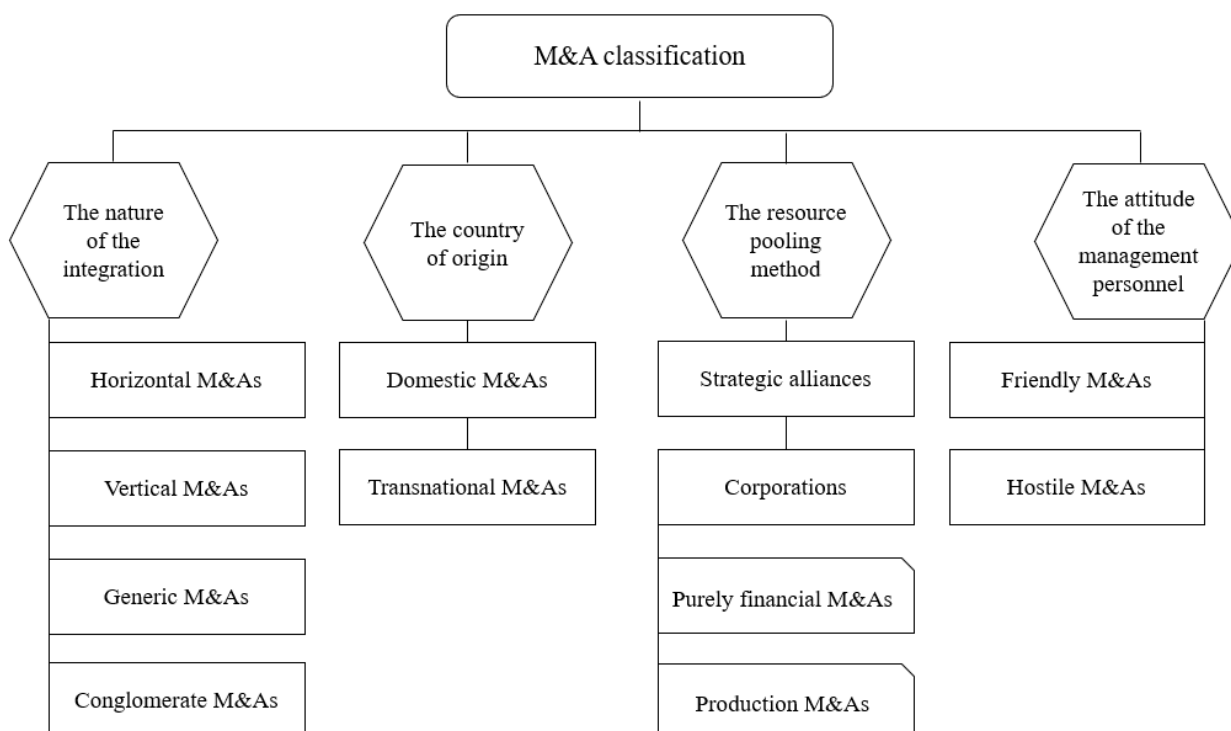
<sup>5</sup> LIN, L., Lee, C. F., & Kuo, H. C. (2013). Merger and acquisition: Definitions, motives, and market responses. *Encyclopedia of finance*, 541.

<sup>6</sup> Stallworthy, E. A., & Kharbanda, O. P. (1988). Takeovers, acquisitions and mergers: strategies for rescuing companies in distress. Kogan Page..

is understood as “consolidation”.<sup>7</sup> There is no definition of "acquisition" in the legislation, but the term "accession" can be considered synonymous, which is defined as "the termination of the activities of one or more companies with the transfer of all their rights and obligations to another company."

## 1.2. Types of mergers and acquisitions

There is a variety of M&As classifications in the Russian scientific literature. The classification of I. G. Vladimirova can be considered the most detailed (see fig. 1).<sup>8</sup>



*Fig. 1. Classification of mergers and acquisitions<sup>9</sup>*

The first criterion is **the nature of the integration**. **Horizontal, vertical, conglomerate, and co-generic** mergers can be distinguished.

- **Horizontal M&A** is a combination of companies of the same industry, producing the same product or carrying out the same stages of production. The merger of American product manufacturers H.J. Heinz Company and Kraft Foods Group and the emergence of The Kraft Heinz Company is an example of horizontal M&A.

<sup>7</sup> Reed, S. F., Lajoux, A. R., & Nesvold, H. P. (2007). *The Art of M & A: A Merger Acquisition Buyout Guide*. McGraw Hill.

<sup>8</sup> Владимирова И. Г. слияния и поглощения компаний/Владимирова ИГ //Библиотека управления.- URL: <https://www.cfin.ru/press/management/1999-1/03.shtml> (Дата обращения: 14.04. 2021).

<sup>9</sup> Владимирова И. Г. слияния и поглощения компаний/Владимирова ИГ //Библиотека управления.- URL: <https://www.cfin.ru/press/management/1999-1/03.shtml> (Дата обращения: 14.04. 2021).

- **Vertical M&A** is a combination of companies from different industries connected by the technological process of manufacturing a finished product, i.e. the expansion of the buying company of its activities either to the previous production stages, up to the sources of raw materials, or to subsequent ones - to the final consumer. For example, the merger of mining, metallurgical, and engineering companies.
- **Co-generic M&A** is a combination of companies that produce related goods. For example, a camera company merges with a company that makes film or chemicals for photography.
- **Conglomerate M&A** is a combination of companies from different industries without a production relation, i.e. it is the merger of a firm in one industry with a firm in another industry that is neither a supplier, nor a consumer, nor a competitor. For instance, a manufacturer of athletic shoes merges with a soft drink company.

The three subtypes of conglomerate M&As can be distinguished:

- ✓ **Product line extension M&A** is a mix of non-competing products whose distribution channels and production processes are similar. An example is the acquisition of Clorox, a manufacturer of laundry bleaching agents, by Procter & Gamble, a leading manufacturer of detergents.
- ✓ **Market extension M&A** is an acquisition of additional sales channels, such as supermarkets in geographic areas not previously covered.
- ✓ **Pure conglomerate M&A** is when the parties have absolutely nothing in common.

Depending on **the country of origin** of companies, there are two types of M&As:

- **Domestic M&A** is a combination of companies located in one state.
- **Transnational M&A** is a merger of companies located in different countries (transnational mergers) or acquisition of companies in other countries (cross-border acquisitions).

Depending on **the resource pooling method**, the following types of mergers can be distinguished:

- **Strategic alliances** are a combination of two or more companies, focused on a specific separate line of business, providing a synergistic effect only in this direction, while in other types of activities, firms act independently. Companies for these purposes can create joint structures, for example, joint ventures.
- **Corporations** imply that all the assets of the firms involved in the deal are combined. If companies merge to centralize financial policy and pool financial resources, then a **purely financial M&A** occurs. In the case of a combination of production facilities, a **production M&A** takes place.

Depending on **the attitude of the management personnel** to the M&A, the following types can be distinguished:

- **Friendly M&A** is when the management team and shareholders of the acquiring and acquired (target, selected for purchase) companies support the deal.
- **Hostile M&A** is when the management of the target company does not agree with the deal and takes a number of countermeasures.

In addition to the main classifications discussed above, M&A deals are divided depending on the **sources of financing** (debt, equity, mixed), **methods of payments** (cash or shares), and **the role of the state** in the deal (with or without the participation of the state).<sup>10</sup>

### 1.3. M&A motives

The rationale for M&A activity has been studied for many years. There are many possible explanations for these deals. This paper will consider seven of the most popular theories about the M&A motives:<sup>11</sup>

- Efficiency Theory
- Agency Theory & Free Cash Flow Hypothesis
- Market Power Hypothesis
- Diversification Hypothesis
- Information Hypothesis
- Bankruptcy Avoidance Hypothesis

#### *Efficiency Theories*

There are two types of efficiency theories: *differential efficiency theory* and *inefficiency management theory*. *Differential efficiency theory* assumes that if firm A and firm B operate in the same industry and A is more efficient than B, A can improve B's efficiency to at least the level of A through acquisition. *Inefficiency management theory* suggests that the information about the inefficiency of firm B is generally known, and not only firm A, but also another company in any other industry can bring the efficiency of firm B to the level of an acquirer. The two theories are similar in perceiving the M&A as a means of solving the target firm's efficiency problem.

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<sup>10</sup> Владимирова И. Г. слияния и поглощения компаний/Владимирова ИГ //Библиотека управления.- URL: <https://www.cfin.ru/press/management/1999-1/03.shtml> (Дата обращения: 14.04. 2021).

<sup>11</sup> LIN, L., Lee, C. F., & Kuo, H. C. (2013). Merger and acquisition: Definitions, motives, and market responses. *Encyclopedia of finance*, 541.

Copeland and Weston (1988) claim that *differential efficiency theory* provides a rationale for horizontal M&As, while *inefficiency management theory* explains conglomerate ones.

The idea of efficiency in the M&A literature stems from the concept of synergy, which can be viewed as the result of combining and coordinating the good parts of the participating companies and getting rid of the redundant parts. Synergy occurs where the market value of the two combined firms is higher than the sum of their individual values.<sup>12</sup>

Synergy can be achieved in several ways. It usually arises from better allocation of the combined firm's resources, such as replacing ineffective management of the target company with more effective and eliminating redundant and unprofitable divisions.<sup>13</sup> Such restructuring frequently increases the market value. Leigh and North (1978) concluded that post-takeover efficiency is a consequence of better management practices and more efficient use of assets.

Synergy can also result from “operating” and “financial” economies of scale.<sup>14</sup> Operational economies of scale lead to “potential reductions in production or distribution costs”<sup>15</sup>, and financial economies of scale result in the lower marginal cost of debt and better debt capacity. Other sources of synergy come from the power of the oligopoly and better diversification of corporate risks.

Efficiency also can be increased by introducing a new corporate culture. It is, therefore, reasonable to assume that a successful M&A requires a harmonious integration of both corporate cultures. In addition, improving a corporate culture could itself be an M&A goal: the merger of American Express and Shearson Loeb Rhoades is a good example of a such deal.<sup>16</sup>

Campbell and Goold (1998) identify the following forms of synergy:

1. Shared know-how: companies benefit from sharing knowledge and skills.
2. Shared tangible resources: companies benefit from sharing physical assets or resources.
3. Pooled negotiating power: different companies gain greater leverage with suppliers by combing their purchases, reduce costs or even improve the quality of goods .
4. Coordinated strategies: coordinating responses to common competitors.
5. Vertical integration: reducing costs, accelerating product development, increasing capacity utilization, and improving market access.
6. Combined business creation: establishing internal joint ventures or alliances.

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<sup>12</sup> LIN, L., Lee, C. F., & Kuo, H. C. (2013). Merger and acquisition: Definitions, motives, and market responses. *Encyclopedia of finance*, 541.

<sup>13</sup> Ross, S. A., Westerfield, R. W., & Jaffe, J. F. (2002). *Financial Administration: Corporate Finance*. São Paulo, SP: Atlas, 2, 330-376.

<sup>14</sup> Ross, S. A., Westerfield, R. W., & Jaffe, J. F. (2002). *Financial Administration: Corporate Finance*. São Paulo, SP: Atlas, 2, 330-376.

<sup>15</sup> Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control: The scientific evidence. *Journal of Financial economics*, 11(1-4), 5-50.

<sup>16</sup> Stallworthy, E. A., & Kharbanda, O. P. (1988). *Takeovers, acquisitions and mergers: strategies for rescuing companies in distress*. Kogan Page.

When combining resources in the M&A process, companies can exchange tangible and intangible assets. Gerbaud and York (2007) in the article “Stock market reactions to knowledge-motivated acquisitions” examine two types of acquisition-derived resources: knowledge-based resources and property-based resources. It investigates the relationship between target resource type and acquirer stock performance. The authors claim that the market punishes acquirers of property-based resources less than acquires of knowledge-based resources because there is uncertainty regarding the value of knowledge resources. This uncertainty argument is proven by the fact that managers disclose more information announcing knowledge-based M&A than when announcing property-based ones.

In the article “Does it pay-off to capture intangible assets through mergers and acquisitions?” A. Arikian considers two types of acquirers: those that buy highly intangible assets and those that buy highly tangible assets. Intangible assets are often valuable, rare, and hard-to-imitate. Theoretically, they can create a sustainable competitive advantage and have the potential for growth opportunities. However, intangible assets often can lose the significant value of their first-best use while being re-deployable, so after the M&A acquirers’ value can be discounted. The results of this study prove that in the long run companies that acquire highly intangible assets on average demonstrate lower abnormal returns, than those that buy highly tangible assets. The author claims that it can be a consequence of a correction of initial investors’ expectations or unexpected revelations of unfulfilled but expected synergies.

#### *Agency Theory & Free Cash Flow Hypothesis*

Agency theory is concerned with the divergence of interests between company owners and managers. The basic assumption of this theory is that principals and agents are rational and try to maximize their own utility functions. In the corporate governance practice, principals are the shareholders and agents are the management. As the management does not own a significant stake in the company, they will be more interested in seeking greater control, higher compensation, and better working conditions at the expense of the firm's shareholders. The separation of ownership and control makes it difficult and expensive to effectively monitor and evaluate management performance. This is known as "moral hazard" and is widespread in both market economies and other organizational forms.<sup>17</sup>

One of the solutions to the agency problem can be an acquisition. Samuelson (1970) argues that " takeovers, like bankruptcy, represent one of Nature’s methods of eliminating deadwood in the struggle for survival." Ineffective management can be replaced after the acquisition. Thus, a

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<sup>17</sup> Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.

takeover is viewed as a discipline imposed by capital markets. Jensen and Rubak (1983) claim that the threat of acquisition actually forces managers to maximize the firm's market value or otherwise their companies will be acquired and they will be dismissed.

On the other hand, the M&A itself could be a source of agency costs. Hubris hypothesis by Roll (1986) suggests that buyer's management is over-optimistic about potential targets sometimes because of information asymmetry and, mostly because of their own self-confidence in their ability to make the right decisions. The over-optimism forces them to pay higher premiums for target companies. In fact, employee bonuses usually depend on firm size, and managers are encouraged to expand their companies at the expense of shareholders.<sup>18</sup>

The free cash flow hypothesis is closely related to agency theory. Free cash flow is defined as ““cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital””<sup>19</sup>.

Jensen (1986) claims that management is usually reluctant to distribute free cash flow to shareholders because it will significantly reduce the resources under their control, without increasing their own wealth. However, expansion is a concern in management compensation schemes, so free cash flow can be used to finance M&As and thus grow.

Besides, additional fundraising puts management under stricter control of the stock market, so, there is an incentive for management to keep some free cash flow or internal funds for investments.<sup>20</sup> Consequently, managers may choose to keep free cash flow in order to grow the company by M&As, even if sometimes the income from such projects is less than the cost of capital.

### *Market Power Hypothesis*

Market power is the ability of a firm to control the quality, price, and supply of its products as a direct result of the scale of its operations. Since the M&As promises rapid growth, it can be a strategy to expand control.<sup>21</sup> Hence, the market power hypothesis can be an explanation for horizontal and vertical M&As. The economic theory of oligopoly and monopoly determines the benefits of significant market power, such as higher profits and barriers to market entry.

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<sup>18</sup> Malatesta, P. H. (1983). The wealth effect of merger activity and the objective functions of merging firms. *Journal of financial economics*, 11(1-4), 155-181.

<sup>19</sup> Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, 76(2), 323-329.

<sup>20</sup> Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of financial Research*, 5(3), 249-259.

<sup>21</sup> Leigh, R., & North, D. J. (1978). Regional aspects of acquisition activity in British manufacturing industry. *Regional Studies*, 12(2), 227-245..

### *Diversification Hypothesis*

The diversification hypothesis can serve as a theoretical explanation for conglomerate M&As. Diversification of business operations is widely recognized as a strategy to mitigate risks and stabilize future cash flows. Lewellen (1971) argues that the value of the conglomerate will be higher than the sum of the value of individual firms due to a decrease in the firm's risk and an increase in debt capacity.

Appropriate diversification can effectively reduce the likelihood of corporate bankruptcy, making it easier for the conglomerate to raise funds, and increase market value. Kim and McConnell (1977) noted that conglomerate bondholders were not affected by increased leverage because the risk of default was reduced. This result holds true even when M&As were financed by increased debt. The M&A can also lead to an increase in debt capacity, as the combined firm is allowed to have more tax subsidies.

Corporate diversification can also increase the overall competitiveness of a firm. Utton (1982) claims that large, diversified firms use their financial and operational competencies to prevent competitors from entering. For instance, they can use predatory pricing and cross-subsidization, which can form a barrier to entry and drive out smaller existing competitors from the market.

### *Information Hypothesis*

The information hypothesis emphasizes the signaling function of many specific announcements. Such announcements attempt to convey information that is not yet publicly available and predict a revaluation of the firm's market value, provided that markets are efficient. M&As should have the same effect. An acquirer and a target publish some information, and the market may revalue shares. The study by Jensen and Ruback (1983) empirically supports this hypothesis showing significant changes in the wealth of buyers and targets.

### *Bankruptcy Avoidance Hypothesis*

Shrieves and Stevens (1979) examined the relationship between takeovers and bankruptcy as a market discipline mechanism and concluded that carefully timed M&As could be an alternative to bankruptcy.

However, financially unhealthy firms are probably not attractive targets. One way to address this dilemma is to consider the issue from the acquirer and the target perspectives separately. To acquirers, the direct benefits of a distressed target are the reduced price and lack of

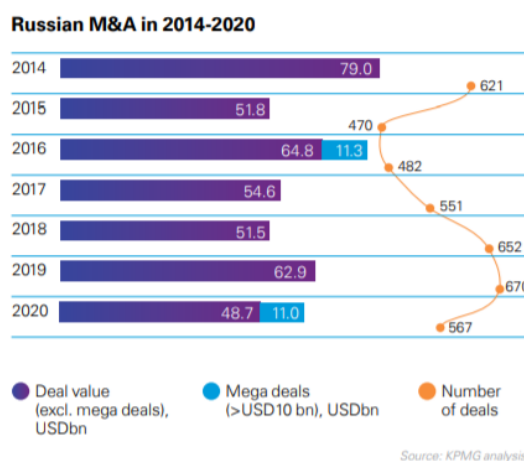


competition from other buyers in the market.<sup>22</sup> Besides, there may be tax incentives and expected synergies.

From the point of view of target shareholders, the motivation is clearer. Pastena and Ruland (1986) concluded that the equity shareholders should prefer a merger over bankruptcy since they usually receive nothing in bankruptcy, but get stocks in a merger.

#### 1.4. The Russian market M&A overview

2020 was challenging for the entire global economy. However, the Russian M&A market demonstrated good deal activity in such circumstances. The number of deals decreased by 15% to 567 in 2020 compared to 2019 and total deal value declined by 5% to 59.7 billion USD (see fig. 2). It means that investors have managed to adapt to the new environment, change their business strategies and find out new opportunities.



*Fig. 2. Russian M&A in 2014-2020<sup>23</sup>*

The pandemic and lockdown as well as drop in oil prices and the anticipation of new sanctions keep investors from participating in deals. The most affected industries are real estate, consumer markets, and transportation. However, in general, the Russian economy withstood the crisis well. Russia's GDP declined by 4%, meanwhile, Europe's GDP dropped by 7.4%.<sup>24</sup>

Analysts predict that 2021 will be marked by:<sup>25</sup>

- the acceleration of technology deals (technology and e-commerce have benefited the most from the pandemic)
- the completion of deferred deals
- conducting deals forced by pandemic (sales of non-core assets, consolidation, etc)

<sup>22</sup> Walker, I. E. (1992). *Buying a company in trouble: a practical guide* (Vol. 1). Gower Publishing Company.

<sup>23</sup> Russian M&A Review (2020). KPMG. Moscow, 10-20.

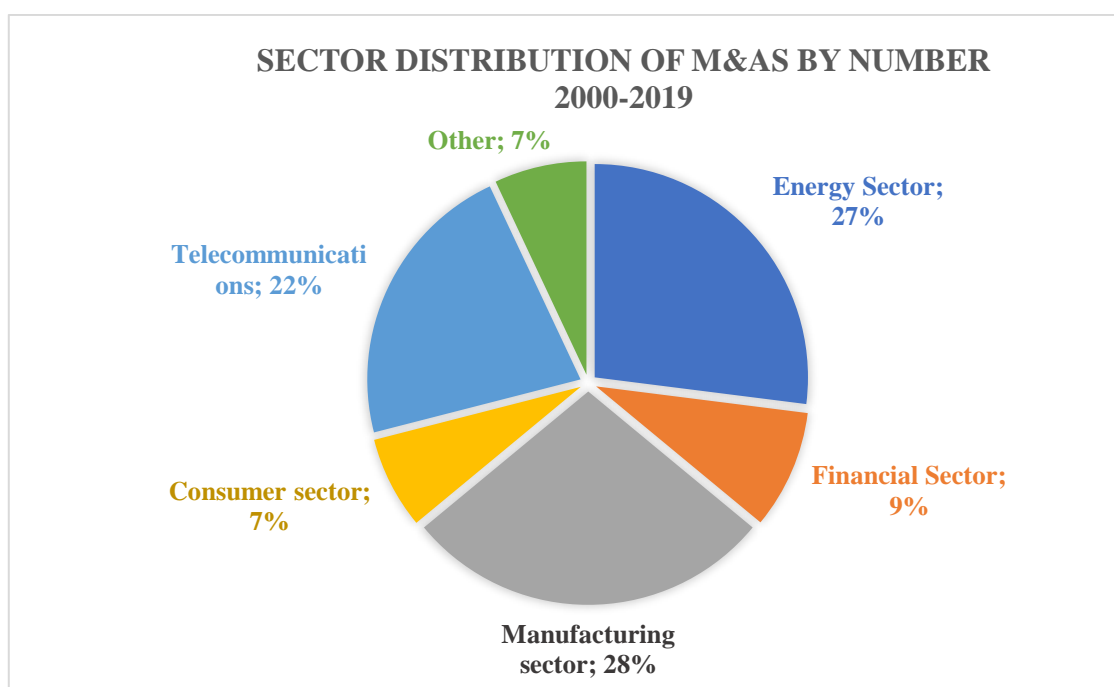
<sup>24</sup> According to the report *Global Economic Prospects*, released by the World Bank in January 2021

<sup>25</sup> Russian M&A Review (2020). KPMG. Moscow, 10-20.

- increasing polarization in asset valuations

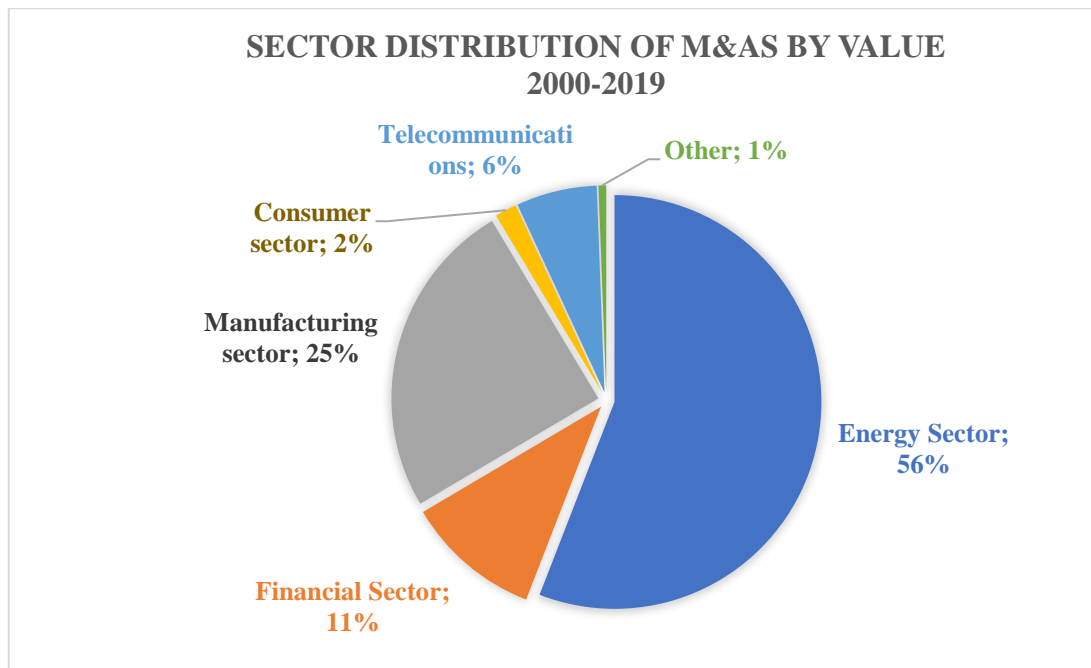
Analysts believe that technology sectors such as FoodTech, EdTech, HealthTech, and MediaTech, as well as data analytics and cloud solutions, will continue to attract investor attention in the coming year. In the longer perspective, investors can engage in investment activities in areas such as self-driving cars, 5G, and the Internet of things. So, the market of “knowledge” M&As will continue to develop.

The following charts show the distribution of M&A deals by sector (see fig. 3 and fig 4.). The energy sector dominates in the Russian M&A market in terms of the value of transactions and ranks second in terms of number. The manufacturing sector ranks first in terms of the number of transactions and second in terms of value. Telecommunications ranked third in terms of the number of transactions.



**Fig.3.** Sector distribution of M&As by number in the Russian Federation in 2000-2019 <sup>26</sup>

<sup>26</sup> Russian M&A Review (2020). KPMG. Moscow, 10-20.



**Fig.4.** Sector distribution of M&As by value in the Russian Federation in 2000-2019<sup>27</sup>

Analysts state that the Russian M&A market is still developing. Despite the steady development over the past decades, it is still not established. Russian market is characterized by the following features:<sup>28</sup>

- high level of overpayment for target companies;
- decline in the volume of transactions over the last 8 years
- low efficiency of M&A deals from the point of view of shareholders.

### 1.5. M&A Performance valuation

The M&A performance is widely studied from the 1960-s till recent times.<sup>29</sup> An M&A strategy is usually used by firms to facilitate growth. Some scientists believe that M&A benefits the company (Lubatkin, 1983), others claim that M&A does not always create value (Cartwright and Schoenberg, 2006). Such inconsistency in the results can be explained by the uniqueness of each M&A (Lubatkin, 1987) or by the fact that the existing M&A performance measurement is not comprehensive for such complex phenomena (Zollo and Meier, 2008).

<sup>27</sup> Russian M&A Review (2020). KPMG. Moscow, 10-20.

<sup>28</sup> Pashtova, L. G., & Maimulov, M. S. (2020). M&A Market Efficiency in Russia: Problems and Prospects. *Finance: Theory and Practice*, 24(1), 76-86.

<sup>29</sup> Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. *Journal of Strategy and Management*.

There are different approaches to defining M&A performance. The scientists categorize M&A performance measures under Accounting Measures, Market Measures, and Other Measures, including subjective assessments.<sup>30</sup>

#### *Accounting measures*

The accounting measures primarily include growth, return, and liquidity & leverage variables.<sup>31</sup> The choice of M&A researchers to use accounting measures is not surprising, as financial performance is easily available data and simple to interpret. However, Bild et al. (2002) claim that accounting data are not suitable for M&A performance measurement, as these indicators do not reflect the NPV of the acquisition. Moreover, accounting measures emphasize historic activity and can be limited in forecasting future performance. (Richard et al., 2009).

#### *Market-related measures*

The main advantage of market-related measures is that they are forward-looking. They represent the present value of future cash flows and take into consideration the intangible assets more effectively than accounting measures. Nonetheless, the degree to which market measures reflect the actual performance of the firm depends on the capital structure and the information efficiency of the market (Richard et al., 2009). Market measures include two dimensions: the market value (e. g., CAR or CAAR) of the company and measures of the systematic risk the company faces (e. g., Jensen's Alpha or Beta coefficient).<sup>32</sup>

#### *Other objective measures*

The mixed variables involving accounting and market aspects and several operational metrics of the acquirer/target are categorized under other objective measures. The strength of mixed measures is that they balance factors ignored by two other groups of objective measures. The most studied variable among these is Tobin's q. Some other frequently used measures are market share and innovation (number of patents or patent frequency).

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<sup>30</sup> Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. *Journal of Strategy and Management*.

<sup>31</sup> Meglio, O., & Risberg, A. (2011). The (mis) measurement of M&A performance—A systematic narrative literature review. *Scandinavian journal of management*, 27(4), 418-433.

<sup>32</sup> Meglio, O., & Risberg, A. (2011). The (mis) measurement of M&A performance—A systematic narrative literature review. *Scandinavian journal of management*, 27(4), 418-433.

### *Subjective measures*

The subjective measures are not suitable for the generalizability of findings due to possible bias. Moreover, Zollo and Meier (2008) have demonstrated that subjective measures correlate to objective ones. The following measures can be considered as subjective: cost synergies, the degree of attainment of M&A goals, the divestiture within a chosen time interval.

The primary focus in M&A performance studies is the acquirer performance, as M&A is viewed as a key strategic choice of the acquirers. Moreover, the results on target company performance are consistent across different studies: the target's stock price rises sharply after the announcement of the acquisition. So, the stockholders of the acquired firm earn positive abnormal returns.<sup>33</sup> Besides, much attention is drawn to cross-border M&As, as there is empirical evidence that this type of deals is more profitable (Francoeur, 2006).

The time horizon is different in scientific studies, it varies from short term (e.g. around the announcement date) to long term (up to five years after the acquisition). However, the majority of studies analyze the short-term performance of the acquirer, implying that the market reacts immediately. It is an appropriate strategy if the acquirer's goal is to capture value by acquisition. Nevertheless, if the acquirer focuses on long-term strategic goals, such a time horizon is not suitable. However, it is impossible to isolate the long-term influence of M&A from the overlapping effects of various factors on market performance. So, there is no consensus on this issue, it is important to understand the acquirers' motives to choose.

The explanatory variables are categorized under the following types: firm-level variables, industry-level variables, and macro-level variables. Haleblan et al. (2009) suggest a framework to classify the variables: it includes the antecedents (the factors that make firms undertake acquisitions) and the moderators (internal and external factors which moderate post-acquisition performance). Nonetheless, Das and Kapil (2012) found that some variables fall outside such classification.

The researchers rarely include macro-economic or environmental factors in their models. It indicates that the scientists believe that these factors do not play a significant role in M&A performance. However, there are no studies that prove the absence of causality between macro-economic factors and M&A performance.<sup>34</sup>

There are many studies confirming that M&A is local, therefore, the conclusions on the foreign developed markets are not applicable to the Russian context. However, the Russian market

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<sup>33</sup> Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. *Journal of Strategy and Management*.

<sup>34</sup> Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. *Journal of Strategy and Management*.

is severely understudied compared to the North American and European regions. Most of the articles use secondary data from large American databases that collect information on US companies. Moreover, many M&A scholars work at US universities. So, the methodology and findings of this work can benefit the scientific researches of emerging markets.

It is also noticed that some industries are more widely studied, than others. In the 1980s (Lubatkin & Shrieves, 1986) the main focus was on manufacturing and mining industries, but in the 2000s high technology industries became more popular.<sup>35</sup> Meglio and Risberg (2011) state that the M&A process is not universal and the results obtained in one specific country or industry are inapplicable to other circumstances.

To sum up, the ambiguity about M&A performance is not a problem to overcome in order to find a general performance measure. It is essential to clearly define what is meant by M&A performance and under what circumstances it is measured. Such an approach increases the likelihood of getting objective results.

In Table 1 the literature review summary is presented. The articles are compared by a period of study, dependent and explanatory variables, and a region of the acquirer. The sign (↑) means that the variable is significant and has a positive relationship with the dependent variable. The sign (↓), on the contrary, means that the variable has an inverse relationship with the studied variable. The sign ( ) means that the variable is insignificant. These articles were selected for in-depth analysis because the dependent variables of applied models are market indicators (short- and long-term abnormal performance). Empirical research of this Master Thesis is also conducted using market metrics as an indicator of M&A performance. The Methodology section provides a more detailed description and justification of the selected M&A performance indicator.

**Table 1.** The literature review summary

<b>Authors &amp; Year of publication</b>	<b>Period of study</b>	<b>Dependent variables (M&amp;A performance measure)</b>	<b>Explanatory variables and significance</b>	<b>Region of the acquirer</b>
Doukas and Lang (2003)	1980-1992	Acquirer's short-term market performance/CAR,	Diversification indicator: (↓) – for both Herfindahl index change: (↓) – for both	North America

<sup>35</sup> Meglio, O., & Risberg, A. (2011). The (mis) measurement of M&A performance—A systematic narrative literature review. *Scandinavian journal of management*, 27(4), 418-433.

<b>Authors &amp; Year of publication</b>	<b>Period of study</b>	<b>Dependent variables (M&amp;A performance measure)</b>	<b>Explanatory variables and significance</b>	<b>Region of the acquirer</b>
		Acquirer's long-term market return	Tobin's q: (↑) – for both	
Finkelstein and Halebian (2002)	1970-1990	Acquirer's long-term market return	Acquirer to target relatedness/similarity (↑) Second acquisition (↓)	North America
Francoeur (2006)	1990-2000	Acquirer's long-term market return	Acquirer to target relatedness/similarity (↑) Book-to-market ratio (↑) Cash payment () Developing target country () Level of know-how of acquirer (↑) Level of R&D of acquirer (↑) Size of acquirer (↑)	North America
Fröhls et al. (1998)	1987-1992	Acquirer's short-term market performance/CAR	Diversification indicator () Insider holding of common equity (↑) Presence of outside directors (↓) Size of acquirer (↓) Tobin's q () Type of joint venture announcement ()	North America
Gerbaud and York (2007)	1990-2000	Acquirer's short-term market performance/CAR	Acquirer to target relatedness/ similarity ()	North America

<b>Authors &amp; Year of publication</b>	<b>Period of study</b>	<b>Dependent variables (M&amp;A performance measure)</b>	<b>Explanatory variables and significance</b>	<b>Region of the acquirer</b>
			Acquisition motive type: property-seeking vs knowledge-seeking (↑)	
Lien and Klein (2006)	1982-1985	Acquirer's short-term market performance/CAR	Acquirer to target relatedness/similarity ( ) Survivor relatedness (↑) Target CAR ( )	North America
Nagano and Yuan (2007)	1998-2006	Acquirer's short-term market performance/CAR	Ownership: targeted stock holding ratio announced by the acquirer (↑) Product of market-to-book ratio of acquirer and target's cash reserve (↑) Ratio of market-to-book ratio of acquirer and target ( ) Size of the acquirer ( )	Asia
Seth et al. (2002)	1981-1990	Total short-term gain to acquirer and target, Acquirer's short-term market performance/CAR	GDP growth: ( ) – for both Governance structure in target countries: ( ) – for total short-term gain to acquirer and target; (↑) – for acquirer's short-term market performance/CAR Reduced variability in earnings in different	North America



Authors & Year of publication	Period of study	Dependent variables (M&A performance measure)	Explanatory variables and significance	Region of the acquirer
			markets: (↑) – for total short-term gain to acquirer and target; ( ) – for acquirer’s short-term market performance/CAR Size of the acquirer: (↑) – for both Target intangibles/assets: ( ) – for both	

It is noteworthy that many works explore the impact of the acquirer to target relatedness on M&A performance and most of them confirm a positive relationship between these two variables (Doukas and Lang, 2003; Lien and Klein, 2006; Finkelstein and Halebian, 2002). One of the possible explanations is that the acquirer from a similar industrial environment may apply relatively more appropriate behavior to the target than another buyer from a different industrial environment. The requirements of a particular environment make firms obey standard procedures (Hawley, 1968), which, along with the shared experience of industry participants (Huff, 1982), facilitate the development of similar internal mechanisms within firms. Moreover, acquirers may better analyze potential targets within their production environment rather than outside of it. In this work, it is also planned to explore this relationship.

The relationship between the acquirer’s size and the M&A performance is less straightforward. Some researchers argue that there is a negative relation between the size and the M&A performance (Mikkelson and Partch, 1989; Song and Walkling, 1993; Fröhls et al., 1998). Others claim that the relationship is positive (Francoeur, 2006; Seth et al, 2002). In this work, the variable *acquirer size* will be used as a control variable in order to capture the mechanical effect of size on abnormal returns. Fröhls et al., (1998) state that the larger the firm, the smaller the percentage change in price required to demonstrate the effect of a given NPV project. So, the percentage change in prices (abnormal returns) for larger firms will be less than for smaller ones. So, the expected relationship will be negative.

Generally, the price-to-book ratio is negatively related to post-acquisition performance. Rau and Vermaelen (1998) claim that the companies with low market-to-book ratio, so-called value firms, perform better after the M&A, than firms with high market-to-book ratio, so-called glamour firms. As the market and management often over-extrapolate the pre-M&A firm's performance when assessing the benefits of M&A, glamour firms can be overvalued. When the market becomes aware of a valuation error, stock prices adjust, and performance decreases. A study by Andre et al. (2004) also confirms this result. Thus, this paper assumes that the relationship between the price-to-book ratio and post-M&A performance will be negative.

Gerbaud and York (2007) consider two motives of M&A: property-based and knowledge-based. As mentioned, the authors claim that companies with knowledge-based motives perform worse, as the market punishes this kind of M&As due to higher uncertainty. This research was conducted in the US market, and now it is planned to analyze the market reaction on these two groups of motives in the Russian market.

The relative size of the deal is frequently used as a control variable in M&A studies, as larger acquisitions are more likely to affect the acquirer's abnormal returns (Asquith et al. 1983). As a result, in this paper, the relative deal size is also controlled.

Another control variable in the model is acquirer pre-M&A performance. Research results on this variable are inconsistent. Morck et al. (1990) state that a successful firm will continue to perform well after the M&A. However, in successful firms managers are more vulnerable to hubris, which can lead to value-destroying acquisitions (Roll, 1986). In this paper, the expected relation with M&A performance is positive.

The acquirer experience is also often used as a control variable because it is intuitively suggested that the more experienced management team, the more successful M&As it conducts. However, some researchers claim that the relationship between M&A experience and M&A performance is U-shaped (Haleblian and Finkelstein, 1999). The authors state that inexperienced acquirers misapplied the experience from early acquisitions to following dissimilar acquisitions, while highly experienced acquirers can avoid these mistakes. For the purpose of this research, it is planned to assume that the relationship is positive.

Kumar and Panneerselvam (2009) investigated the relationship between M&A performance and the acquirer's liquidity and concluded that this relation was negative. These results confirm the Free Cash Flow theory, under which the management is usually reluctant to distribute free cash flow to shareholders and may sometimes invest in unprofitable M&As. This variable will be included in the model as control.

Additionally, some macro variables will be included in the model: *oil prices* and *market conditions*. The Russian economy heavily depends on oil prices, as a third of its economy is tied

to oil & gas extraction. So, the rise and decline of the economy are tightly connected with the operation of the oil & gas sector.<sup>36</sup> Including this variable in the model allows evaluating the relationship between the economic conditions in Russia and M&A performance. The expected relationship is positive, as better economic conditions create wider opportunities.

The variable *market conditions* mean bullish or bearish market at the moment of M&A deal announcement. It is believed that less profitable companies select the bullish market to conduct M&A in order to mislead investors about its current performance. Meanwhile, well-performing companies make no preference for bullish or bearish markets. Thus, there may be a negative relationship between market conditions and post-M&A performance (Jing et al., 2013).

## 1.6. Hypothesis formulation

As the goal of the thesis is to reveal the relationships between M&A market performance and some factors, it is suggested to be an explanatory study. The following research tools will be used: event study for obtaining the results on M&A performance and cross-sectional analysis to find out relationships.

In financial literature, the research on M&A performance is conducted mainly using the event study tool. Event studies are commonly used to analyze stock market reactions to events such as IPOs, SEOs, M&As, financial statements announcements, etc. The important assumption of this method is market efficiency and therefore share price changes reflect the value of an acquisition.<sup>37</sup>

The central concept of this method is abnormal returns. Abnormal returns are the deviation of the returns of the analyzed security from the returns of the selected benchmark (market index or group of peer companies). Significant abnormal returns can be a sign that the market reacts to an event. If the company's returns are higher than that of the benchmark, then the market positively perceives this event, and if they are lower, investors expect negative consequences from this event.

The abnormal returns obtained during the event study will be used for the subsequent cross-sectional analysis. The cross-sectional analysis is applied to reveal relationship between the dependent variable and some set of factors. The abnormal returns will be used as dependent variables, the independent variables are the following.

### **The variables of interest:**

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<sup>36</sup> Balashova S., Serletis A. Oil prices shocks and the Russian economy //The Journal of Economic Asymmetries. – 2020. – T. 21. – C. e00148.

<sup>37</sup> Wooldridge, J. M. (2015). Introductory econometrics: A modern approach. Cengage learning.

1. Acquirer to target relatedness/similarity: measured by using the Russian classification of industries OKVED (0 – for unrelated; 1 – for related). For this research two-digit code of the main activity is used.
2. Motives of M&As: where 1 – knowledge-based motive, 0 – property-based motive.

According to Miller and Shamsie (1996), property-based M&A is when a firm has an asset which ownership rights are defensible by law. Property-based resources are associated with tangible assets that allow access to new markets, facilitate competitive deterrence, or increase the firm's size or scale. Meanwhile, a knowledge-based resource is defined as an individual, team, or organizational capability. It relates to functional skills, capabilities, processes, and employee experience. Efficiency acquisition motives are also classified as knowledge-based resources because they are more process than asset-related.

Property-based resources are more about “having” (Hall, 1993), independent on people (Amit & Schoemaker, 1993), are defensible by law (Mahoney & Pandian, 1992; Hall, 1993; Miller & Shamsie, 1996), and are usually transferable from one firm to another (Teece, 1998). Knowledge-based resources are more about “doing” (Grant, 1996), are dependent on people (Amit & Schoemaker, 1993; Grant, 1996; Makadok, 2001; Teece, Pisano, & Shuen, 1997), are not defensible by law, and are non-transferable.

Table 2 contains the examples for property-based and knowledge-based resources.<sup>38</sup>

**Table 2.** The codification of knowledge-based and property-based M&As

<b>Property-based resources</b> <i>(examples)</i>	<b>Knowledge-based resources</b> <i>(examples)</i>
Access to new markets	Market knowledge and skills
Property, plant, equipment	Efficient processes, procedures
Market position/market consolidation, market share	Economies of scale, cross-selling
Bargaining power	Restructuring efficiencies
New product, business, service	Managerial knowledge, skills
Intellectual property-brands, trademarks, copyrights, patents	Technological knowledge, skills
Contracts, agreements, licenses	IT knowledge, processes
Critical mass, minimum efficient scale	Human capital (non-management)
Financial capital	Relationships, networks

<sup>38</sup> Gerbaud, R. R., & York, A. S. (2007). Stock market reactions to knowledge-motivated acquisitions. In *Advances in mergers and acquisitions*. Emerald Group Publishing Limited.

<b>Property-based resources</b> <i>(examples)</i>	<b>Knowledge-based resources</b> <i>(examples)</i>
Data bases	Culture
Distribution networks	Company reputation, image
Other property resource motives	Other knowledge resource motives

Some M&As involve the acquisition of both property and knowledge resources, acquisitions will be classified as knowledge-based if at least 50% of the motives identified in the press releases can be considered as knowledge-driven (York & McDaniel, 2003).

3. Price-to-book ratio: the average P/B over 30 days before the M&A announcement.
4. Oil prices: the logarithm of current oil prices on the day before the announcement.
5. Market conditions: where 1 - the bullish market and 0 – the bearish market. The bullish market is identified by positive cumulative return over the last 14 days before the announcement, the bearish market demonstrates negative cumulative return.

**Control** variables:

1. Relative deal size: the ratio of the deal value to the acquirer’s market capitalization on the day before the announcement.
2. Acquirer’s size: the logarithm of acquirer’s total assets on the day before the announcement.
3. Acquirer’s pre-M&A performance: cumulative abnormal return (CAR) over 1 year before the M&A announcement. The benchmark is The Moscow Exchange Russia Index.
4. Acquirer’s experience: a dummy variable, where 1 – a company had experience in M&A over the last 3 years before the deal, 0 – if not.
5. Acquirer’s current liquidity: the current ratio on the day before the announcement.

Thus, the study will test the following hypotheses:

Hypothesis 1: The M&A market performance of Russian companies is positively related to *an acquirer to target relatedness/similarity*.

Hypothesis 2: In Russia, M&As with *a knowledge-based motive*, on average, show lower market performance, than deals with *a property-based motive*.

Hypothesis 3: The M&A market performance of Russian companies is negatively related to *the price-to-book ratio*

Hypothesis 4: The M&A market performance of Russian companies is positively related to *oil prices*

Hypothesis 5: The market performance of M&As conducted on *the bearish market* is higher, than on *the bullish market*.

## CHAPTER 2. EMPIRICAL STUDY ON FACTORS OF M&A PERFORMANCE ON THE RUSSIAN STOCK MARKET

### 5.1. Methodology

The key concept explored in this paper is the stock returns. In this paper they will be calculated the following way:

$$r_t = \frac{P_t - P_{t-1}}{P_{t-1}} \quad (4)$$

where  $r_t$  – is the stock return at time  $t$ ;  $P_t$  – share price at time  $t$ ;  $P_{t-1}$  – share price at time  $t-1$ .

The Event Study Method is used to assess the impact of an event on the company's stock returns. It is based on comparing the performance of the investigated company with the performance of a certain benchmark at a certain time interval (event window), during which the event has a direct impact on the company's performance. The benchmark can be both the performance of the company itself in the period before the start of the event window, or other companies. If the company itself is selected as a benchmark, then an estimation window is formed, on which the "normal" performance is calculated. If other companies are selected as a benchmark, then the estimation window coincides with the event window, and then "normal" performance means the performance of a set of other companies. The deviation of the performance of the studied company from the "normal" one is called abnormal performance.

The abnormal return method contains the premise of the average efficiency of the market: the share price reflects not only past information but also all public information known at a given time. Consequently, the share price considers the potential risks and rewards that could arise from the M&As.

There are two main instruments for assessing abnormal stock returns: CAR and BHAR. CAR is one of the most common event method tools and one of the simplest. It assumes the summation of abnormal returns within the event window. A feature of this method is its use only on short-term event windows. CAR will be used in this work to assess the abnormal return for the year before the M&A announcement and to assess the short-term abnormal performance around the date of the announcement. The MOEX Russia Index will be used as a benchmark.

Below there is the formula for calculating the cumulative abnormal return

$$CAR[t_1, t_2] = \sum_{t=t_1}^{t_2} AR_t$$

Where  $t_1$  - the lower border of the event window;  $t_2$  – the upper border of the event window;  $AR_t$  - abnormal return per day  $t$ , which is calculated as:

$$AR_t = r_t - k_t \quad (6)$$

where  $AR_t$  – is the abnormal performance in day  $t$ ;  $r_t$  – performance of the investigated company in day  $t$ ;  $k_t$  – "normal" stock return in day  $t$ .

The BHAR (Buy and Hold Abnormal Returns) tool is recommended for evaluating long-term abnormal returns. To determine the impact of the event on the value of the company, the return on the stock of the analyzed company is compared with the return on some benchmarks. However, it is believed that the use of BHAR leads to large errors. Since the inaccuracy of the normal return for some period provided by a benchmark multiplies and affects the final result due to the use of compound interest much more strongly than in the CAR method [Fama, 1998]. However, the CAR method is not applicable for the long-term performance measure, therefore, BHAR will also be used in this paper.

The BHAR method calculates two indicators. The first is the growth in the value of the analyzed company within the selected event window  $[t_1; t_2]$ :

$$R = \prod_{t_1}^{t_2} (1 + r_t) \quad (10)$$

where  $r_t$  – performance of the analyzed company for the month  $t$ .

The second indicator is the growth in the value of a benchmark:

$$R_{benchmark} = \prod_{t_1}^{t_2} (1 + r_{benchmark,t}) \quad (11)$$

where  $r_{benchmark,t}$  – benchmark performance for month  $t$ . The benchmark is the MOEX Russia Index.

Afterward, the abnormal performance is calculated for each company for the entire event window  $[t_1; t_2]$ :

$$BHAR [t_1; t_2] = R - R_{benchmark} = \prod_{t_1}^{t_2} (1 + r_t) - \prod_{t_1}^{t_2} (1 + r_{benchmark,t}) \quad (12)$$

After that, the hypotheses on the significance of the obtained values are tested. The null hypothesis is that the means of CAR and BHAR are equal to zero, that is, the event does not affect the value of the company. The alternative hypothesis is that their means are not equal to zero, so, the event has an impact.

After calculating the abnormal returns, multifactor regressions are constructed, where the abnormal returns will be dependent variables, and the investigated factors of M&A performance will be independent variables. The regression models will be constructed only for significant abnormal returns.

The following models will be used for analysis:

### **Model 1.**

$$CAR_t = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + LIQUIDITY_t + \\ + CAR0_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $CAR_t$  is the cumulative abnormal return of dealt t with **3 days** event window.

$DEALSIZE_t$  is a relative size of a deal t,

$RELATED_t$  is acquirer to target relatedness/similarity of deal t,

$PB_t$  is the average price-to-book ratio of the acquirer before the announcement of deal t,

$SIZE_t$  is the acquirer's size of deal t,

$EXP_t$  is the acquirer's experience of deal t,

$LIQUIDITY_t$  is the acquirer's current liquidity of deal t,

$CAR0_t$  is the acquirer's pre-M&A performance of deal t,

$OIL_t$  is the logarithm of current oil prices before the announcement of deal t,

$MARKET_t$  is the market conditions before the announcement of deal t,

$MOTIVE_t$  is the motive of deal t.

### **Model 2.**

$$CAR2_t = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + \\ + LIQUIDITY_t + CAR0_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $CAR2_t$  is the cumulative abnormal return of dealt t with **7 days** event window.

### **Model 3.**

$$BHAR_{12m_t} = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + \\ + LIQUIDITY_t + CAR0_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $BHAR_{12m_t}$  is the buy-and-hold abnormal return of dealt t with **12 months** event window.

### **Model 3.**

$$BHAR_{18m_t} = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + \\ + LIQUIDITY_t + CAR0_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $BHAR_{18m_t}$  is the buy-and-hold abnormal return of dealt t with **18 months** event window.



#### **Model 4.**

$$BHAR_{24m_t} = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + \\ + LIQUIDITY_t + CARO_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $BHAR_{24m_t}$  is the buy-and-hold abnormal return of dealt t with **24 months** event window.

#### **Model 5.**

$$BHAR_{30m_t} = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + \\ + LIQUIDITY_t + CARO_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $BHAR_{30m_t}$  is the buy-and-hold abnormal return of dealt t with **30 months** event window.

#### **Model 6.**

$$BHAR_{36m_t} = DEALSIZE_t + RELATED_t + PB_t + SIZE_t + EXP_t + \\ + LIQUIDITY_t + CARO_t + OIL_t + MARKET_t + MOTIVE_t + \varepsilon_t ,$$

where  $BHAR_{36m_t}$  is the buy-and-hold abnormal return of dealt t with **36 months** event window.

### **5.2. Period of analysis**

In Russian corporate practice, the meaning of the M&A process does not coincide with its traditional understanding in Western theory and practice.<sup>39</sup> For a detailed analysis of the Russian M&A market, the stages of its development should be identified. Thus, the authors of the study "Problems of mergers and acquisitions in the corporate sector" conducted at the Institute of Economics highlight several stages in the development of the Russian M&A market.

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<sup>39</sup> Молотников, А. Е. (2006). Слияния и поглощения. Российский опыт. М.: Вершина, 4

The first stage (post-privatization) lasted from the mid-1990s till the 1998 crisis, this period was characterized by the presence of only a few attempts of classical mergers and acquisitions. At this time acquisitions through privatization were most widely practiced. This method was relevant both as an independent mechanism and as part of the expansion of the first financial and industrial groups.

The second stage lasted from mid-1999 till 2002. Due to the specificity of methods used during this phase, some analysts prefer to use the term "property redistribution" instead of the term "mergers and acquisitions". During the second phase, the expansion of industrial groups was combined with the asset consolidation process.

The third stage began in 2002 and ended in 2007. A distinctive feature of this stage is the slowdown in the expansion of already established groups, as well as the completion of the consolidation processes.

The results of research carried out by the international consulting company McKinsey & Company showed that the methodology for developing a strategic approach to mergers and acquisitions in the early stages was hardly used by Russian companies. Most of the deals were notable for the absence of a strict need to form a conscious strategic approach to the selection of an acquisition target, as well as its integration. It was caused by the following reasons:

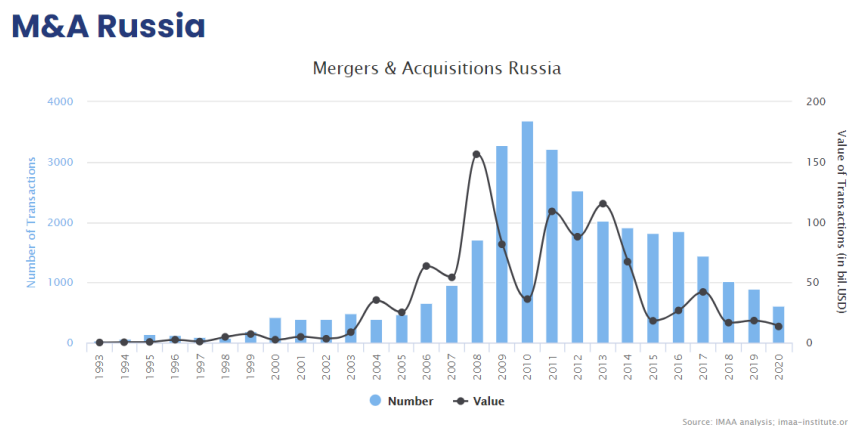
1. Fully paid deals were the exception rather than the general rule. Therefore, the acquirers did not assume significant risks that would correspond to the real value of the assets;
2. Most of the target companies were either grossly undervalued or had guaranteed cash flows;
3. The new owners often did not aim at increasing the company's capitalization, as their goal were pumping out assets;
4. The underlying reasons were non-economic in many cases. For instance, acquiring an enterprise that was significant enough for a certain region, the new owners at the same time received a political influence on the regional authorities and, as a result, strengthened their administrative resources.

The fourth stage, which began in 2008, is characterized by a decline in M&A activity. Compared to 2007, the capacity of the Russian M&A market in 2008 decreased by 36.5% and amounted to \$ 77,556.5 million. Forecasts that the global crisis will not affect the Russian economy, and, accordingly, the Russian market of mergers and acquisitions did not come true.

Since 2008 mergers have become more "strategic" and civilized, which is a positive trend: the number of regional and international transactions has grown, while the number of hostile takeovers has decreased.

To sum up, the processes that took place in Russia at earlier periods were difficult to classify as traditional mergers and acquisitions. So, it is planned to analyze the M&A performance after 2005 when deals on capital markets became more civilized.

In the graph below the dynamics of the M&A market from 1993 till 2020 is presented.



*Fig. 5. The volume and the number of M&A transactions in 1993-2020*

### 5.3. Sample description

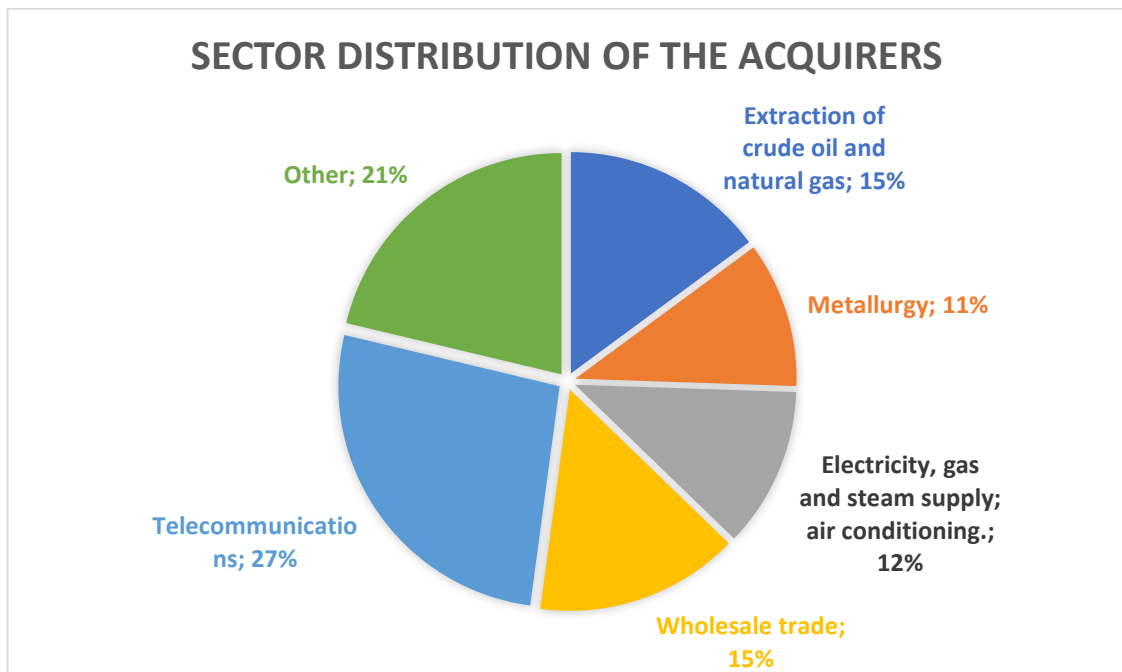
For the research, it is planned to create a sample of Russian companies that conducted M&As. The sample will be formed using the following criteria:

1. An acquirer and target company must be Russian.
2. An acquirer must be listed on the Moscow Stock Exchange and its shares must be actively traded.
3. Financial and insurance companies are excluded from the sample.
4. The company must be listed 3 years after the M&A.
5. The initial share of the company in the target capital must be less than 50%.
6. The analyzing period is from 2005 to the present time.

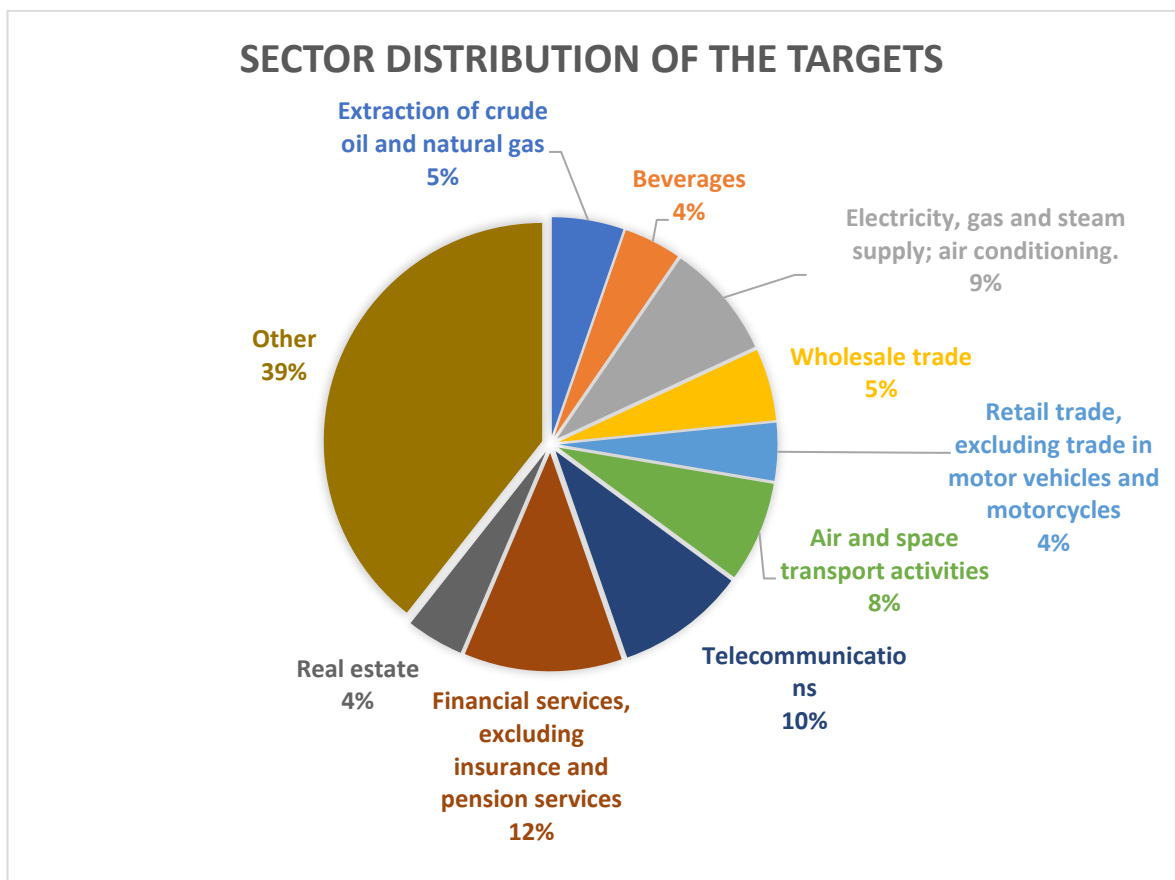
After meeting these criteria, the number of M&A transactions in the sample was 168. However, due to the incompleteness of the data and the aggregation of some mergers and acquisitions into one, since they occurred simultaneously when several assets were sold from the company at once, the sample was reduced to 108 observations. Subsequently, some outliers were removed, and the total number of transactions was 93.

Necessary data has been collected using databases Thomson Reuters and Zephyr Bureau van Dijk. In addition, around 200 press releases have been reviewed, and the main motive for each deal has been identified. A complete list of acquirers and their OKVEDs is presented in Appendix 1.

Below there are charts of the distribution of acquirers and targets by industry.



*Fig. 6. Sector distribution of the acquirers*



*Fig. 7. Sector distribution of the targets*

So, the dominating industries among acquirers are telecommunications, oil & gas, and wholesale trade. Cumulatively, they constitute 57% of the whole sample. Regarding target companies, they demonstrate a wider industry spread. The dominating industries are financial services, telecommunications, electricity, gas & steam supply, and air & space transport activities. They cumulatively amounted to 39% of the total sample.

#### 5.4. Event study results

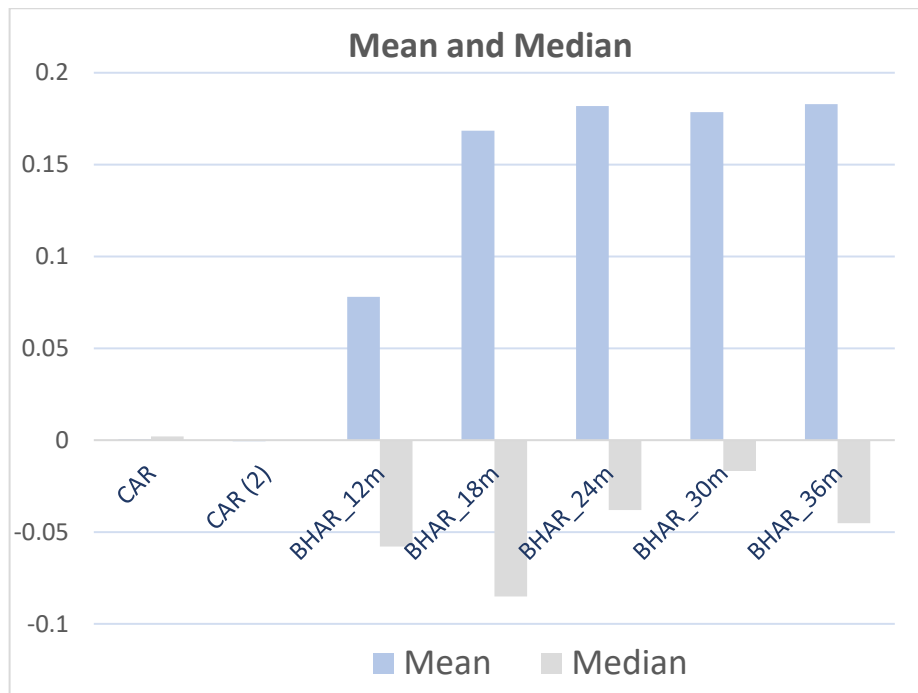
Using CAR and BHAR methods, abnormal returns have been calculated for each M&A in the sample. The table below presents the descriptive statistics of short-term and long-term abnormal returns.

**Table 3.** The descriptive statistics of abnormal returns

	Short-term abnormal returns		Long-term abnormal returns				
	CAR (-1; +1)	CAR (-3; +3)	BHAR 12m	BHAR 18m	BHAR 24m	BHAR 30m	BHAR 36m
Mean	0.00041	-0.00065	0.07797	0.16849	0.1818	0.17851	0.18288
Median	0.00197	-0.00024	-0.05794	-0.08518	-0.03809	-0.01684	-0.04515
St dev	0.03688	0.0448	0.50013	0.75547	0.75356	0.82752	0.96138
Min	-0.11459	-0.20301	-0.70458	-0.70875	-0.83833	-1.03376	-0.99253
Max	0.14854	0.09499	2.93215	3.49187	2.81432	2.98948	3.95751
Weighted mean	0.00099	-0.00161	0.19125	0.41326	0.44591	0.43784	0.44856

Means for CAR (-1;+1) and all BHARs are positive, meanwhile, the median is negative in all cases, except CAR (-1;+1). So, there is a shift towards positive values. The minimum and maximum values demonstrate the same results. The lowest values are around -1 for BHARs, but the highest values are around 3. Market value-weighted average is higher than ordinary mean, in all cases. Thus, companies with a higher market value perform better than companies with a smaller capitalization.

The chart below demonstrates mean and median values of abnormal returns. The absolute values of means and medians of long-term abnormal performance are much higher than short-term ones. The highest means are for BHAR 24 months and BHAR 36 months.



**Fig. 8.** Means & Medians of abnormal returns

After that, the hypotheses about the equality of the mathematical expectations of abnormal returns to zero were tested. According to the results obtained (see Table 4), at a significance level of 10%, the main hypothesis is rejected for BHAR 18m, BHAR 24 m, BHAR 30m, BHAR 36m, therefore, the mathematical expectations of these BHARs are not zero. This means the significance of these abnormal returns. The regression models will be constructed only for significant abnormal returns.

**Table 4.** Testing the hypothesis

H <sub>0</sub>	Mean equals to 0						
H <sub>a</sub>	Mean does not equal to 0						
	CAR (-1; +1)	CAR (-3; +3)	BHAR 12m	BHAR 18m	BHAR 24m	BHAR 30m	BHAR 36m
P-Value	0.9158	0.8883	0.1361	0.0341	0.0222	0.0403	0.0698
t	0.1060	-0.1409	1.5035	2.1508	2.3266	2.0803	1.8345
Degrees of freedom	92	92	92	92	92	92	92
Significance 10%	no	no	no	yes	yes	yes	yes

## 5.5. Descriptive statistics of the variables

The next step after the event study is to build regressions with abnormal returns as dependent variables and the following factors as independent variables:

1. Relative deal size
2. Acquirer to target relatedness/similarity
3. Price-to-book ratio
4. Acquirer's size
5. Acquirer's experience
6. Acquirer's current liquidity
7. Acquirer's pre-M&A performance
8. Oil prices
9. Market conditions
10. Motives of M&As

The table below provides descriptive statistics of the variables:

**Table 5.** Descriptive statistics of the variables

Dependent variables	Obs	Mean	Std. Dev.	Min	Max
car	93	0.0004	0.0369	-0.1146	0.1485
car2	93	-0.0007	0.0448	-0.2030	0.0950
bhar12m	93	0.0780	0.5001	-0.7046	2.9321
bhar18m	93	0.1685	0.7555	-0.7088	3.4919
bhar24m	93	0.1818	0.7536	-0.8383	2.8143
bhar30m	93	0.1785	0.8275	-1.0338	2.9895
bhar36m	93	0.1829	0.9614	-0.9925	3.9575
Independent variables	Obs	Mean	Std. Dev.	Min	Max
dealsize	93	0.1133	0.5365	0.0000	4.5372
related	93	0.2366	0.4273	0.0000	1.0000
pb	93	2.0800	1.9841	-0.2100	15.6200
size	93	19.7715	1.8804	14.7671	23.2248
exp	93	0.9570	0.2040	0.0000	1.0000
liquidity	93	1.5284	1.2378	0.1100	7.8000
car0	93	0.0330	0.3419	-0.9374	1.3163
oil	93	4.3734	0.3061	3.5136	4.9389
market	93	0.5484	0.5004	0.0000	1.0000
motive	93	0.1828	0.3886	0.0000	1.0000

According to the descriptive statistics the following results have been obtained:

1. The mean of CAR (-1; +1) is positive 0.04%, the mean of CAR (-3; +3) is negative -0.07%.

2. All BHAR coefficients are positive, so, on average, the companies that conducted M&As perform higher than their peers.
3. The average ratio of deal value to capitalization is 11.3%,
4. Most of the M&As are conducted between companies that operate in different industries.
5. The average P/B is 2.08.
6. Almost all acquirers had experience in M&A during the previous three years before the observable deal.
7. The average current liquidity ratio is 1.53.
8. On average, acquirers had positive pre-M&A performance over the year before the deal.
9. The M&A deals were conducted approximately with the same frequency in a bull and bear market.
10. Only 18% of M&As in the sample have knowledge-based motives.
11. In descriptive statistics some outliers still present: the ratio of deal value to a market capitalization that equals 4.54 is an outlier, as in general, this ratio is less than 1. The negative P/B are also outliers.

The correlation matrix is presented in the table below.

**Table 6.** Correlation matrix

	car	car2	bhar12m	bhar18m	bhar24m	bhar30m	bhar36m
car	1.00						
car2	0.80	1.00					
bhar12m	0.15	-0.02	1.00				
bhar18m	-0.05	-0.25	0.82	1.00			
bhar24m	-0.09	-0.17	0.70	0.89	1.00		
bhar30m	0.01	-0.06	0.71	0.83	0.93	1.00	
bhar36m	-0.01	-0.07	0.66	0.78	0.90	0.93	1.00
dealsize	0.06	0.13	0.19	0.13	0.03	0.08	0.00
related	-0.07	-0.23	0.21	0.21	0.07	0.06	0.10
pb	0.03	0.09	-0.19	-0.22	-0.22	-0.24	-0.17
size	0.23	0.16	-0.06	-0.24	-0.19	-0.16	-0.16
exp	0.01	0.14	0.15	-0.11	-0.02	0.00	-0.01
liquidity	-0.12	-0.14	-0.03	-0.07	-0.07	-0.03	0.02
car0	0.10	-0.01	0.07	0.17	0.02	-0.02	-0.03



oil	-0.01	0.01	-0.28	-0.27	-0.35	-0.35	-0.35
market	0.00	-0.10	0.14	0.10	0.11	0.14	0.20
motive	-0.11	-0.06	0.09	0.06	0.09	0.07	0.07

	dealsize	related	pb	size	exp	liquidity	car0
dealsize	1.00						
related	0.08	1.00					
pb	-0.16	0.07	1.00				
size	-0.31	-0.21	-0.06	1.00			
exp	0.00	-0.13	0.04	0.37	1.00		
liquidity	-0.01	0.13	-0.12	-0.03	0.02	1.00	
car0	0.00	0.01	0.05	-0.03	-0.06	-0.01	1.00
oil	0.04	0.01	0.21	-0.09	0.03	-0.10	-0.05
market	-0.04	0.15	-0.11	0.07	0.02	0.26	0.07
motive	-0.06	0.00	-0.03	-0.07	0.10	-0.12	-0.16

	oil	market	motive
oil	1.000		
market	-0.142	1.000	
motive	-0.181	-0.018	1.000

CAR and CAR (2) are strongly correlated, so these variables are likely to reflect the same metric. BHAR variables are also strongly correlated with each other. There is no strong correlation among the dependent variables, so multicollinearity is likely not to be present in the model.

For the analysis of the M&A performance with different motives, the sample has been divided into two sub-samples by two main motives: knowledge-based and property-based. The table below presents the descriptive statistics of these sub-samples.

**Table 7.** Knowledge M&As

Variable	Obs	Mean	Std. Dev.	Min	Max
car	17	-0.01	0.04	-0.07	0.09
car2	17	-0.01	0.03	-0.06	0.07
bhar12m	17	0.17	0.58	-0.29	1.96
bhar18m	17	0.27	0.82	-0.32	2.46
bhar24m	17	0.32	0.95	-0.46	2.81
bhar30m	17	0.30	1.01	-0.43	2.99
bhar36m	17	0.33	1.40	-0.65	3.96
dealsize	17	0.05	0.10	0.00	0.34
related	17	0.24	0.44	0.00	1.00
pb	17	1.94	1.63	-0.10	4.93
size	17	19.49	1.69	15.09	22.19
exp	17	1.00	0.00	1.00	1.00
liquidity	17	1.22	0.97	0.42	4.16
car0	17	-0.08	0.26	-0.54	0.31

oil	17	4.26	0.31	3.84	4.71
market	17	0.53	0.51	0.00	1.00
motive	17	1.00	0.00	1.00	1.00

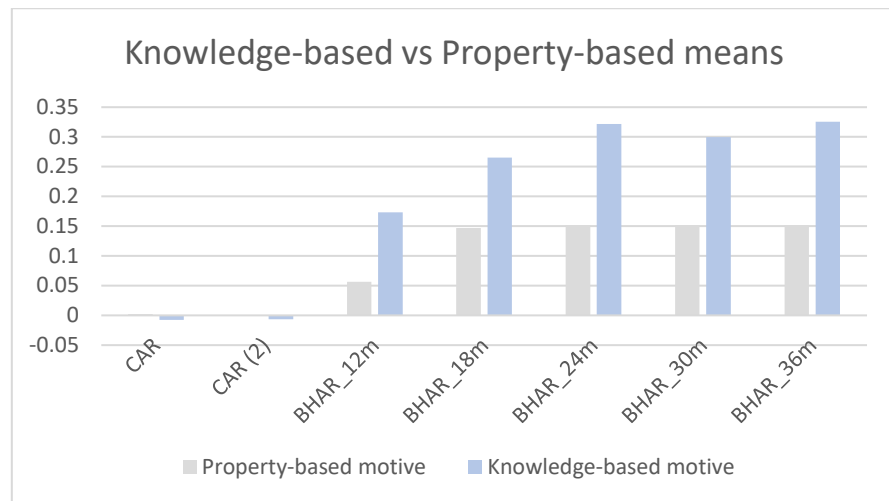
**Table 8.** Property M&As

Variable	Obs	Mean	Std. Dev.	Min	Max
car	76	0.002	0.036	-0.115	0.149
car2	76	0.001	0.047	-0.203	0.095
bhar12m	76	0.057	0.483	-0.705	2.932
bhar18m	76	0.147	0.745	-0.709	3.492
bhar24m	76	0.150	0.705	-0.838	2.689
bhar30m	76	0.151	0.785	-1.034	2.831
bhar36m	76	0.151	0.843	-0.993	3.366
dealsize	76	0.128	0.591	0.000	4.537
related	76	0.237	0.428	0.000	1.000
pb	76	2.111	2.063	-0.210	15.620
size	76	19.833	1.925	14.767	23.225
exp	76	0.947	0.225	0.000	1.000
liquidity	76	1.596	1.286	0.110	7.800
car0	76	0.059	0.355	-0.937	1.316
oil	76	4.400	0.301	3.514	4.939
market	76	0.553	0.501	0.000	1.000
motive	76	0.000	0.000	0.000	0.000

CAR is on average negative for knowledge-based M&As and positive for property-based M&As. All means for BHAR variables are positive and higher for knowledge-based M&As. Thus, the market punishes companies that conduct knowledge-based M&As in the short term, but in the long-term companies that conduct knowledge-based M&As perform better.

In the sample, knowledge-based M&As are carried out by companies that already had an experience in M&A during the last 3 years before the deal. Pre-M&A performance for knowledge-based M&As is negative on average, meanwhile, for property-based it is positive.

The chart below demonstrates the difference in means of knowledge-based and property-based M&As.



**Fig.9.** Knowledge-based vs Property-based means

For the purpose of the research, the sample was also divided into two periods: 2005-2009 (early development of the Russian M&A market and the global financial crisis) and 2010-2017 (post-crisis period). Descriptive statistics for each time period are presented in the tables below.

**Table 9.** Descriptive statistics of M&As in 2005-2009

Variable	Obs	Mean	Std. Dev.	Min	Max
car	37	0.01	0.05	-0.10	0.15
car2	37	0.01	0.05	-0.20	0.09
bhar12m	37	0.25	0.71	-0.70	2.93
bhar18m	37	0.35	1.04	-0.71	3.49
bhar24m	37	0.33	1.00	-0.84	2.81
bhar30m	37	0.35	1.08	-1.03	2.99
bhar36m	37	0.44	1.27	-0.99	3.96
dealsize	37	0.09	0.41	0.00	2.48
related	37	0.32	0.47	0.00	1.00
pb	37	2.30	2.60	0.28	15.62
size	37	19.86	2.19	14.77	22.85
exp	37	0.89	0.31	0.00	1.00
liquidity	37	1.57	0.72	0.37	3.48
car0	37	0.02	0.35	-0.94	0.84
oil	37	4.23	0.25	3.51	4.94
market	37	0.65	0.48	0.00	1.00
motive	37	0.08	0.28	0.00	1.00

**Table 10.** Descriptive statistics of M&As in 2010-2017

Variable	Obs	Mean	Std. Dev.	Min	Max
car	56	-0.01	0.03	-0.11	0.06
car2	56	-0.01	0.04	-0.14	0.07
bhar12m	56	-0.03	0.24	-0.36	0.82
bhar18m	56	0.05	0.46	-0.69	1.57
bhar24m	56	0.08	0.52	-0.53	1.81
bhar30m	56	0.06	0.59	-0.67	2.77
bhar36m	56	0.01	0.64	-0.84	3.06
dealsize	56	0.13	0.61	0.00	4.54
related	56	0.18	0.39	0.00	1.00
pb	56	1.94	1.45	-0.21	5.14
size	56	19.71	1.66	15.09	23.22
exp	56	1.00	0.00	1.00	1.00
liquidity	56	1.50	1.49	0.11	7.80
car0	56	0.04	0.34	-0.50	1.32
oil	56	4.47	0.31	3.77	4.82
market	56	0.48	0.50	0.00	1.00
motive	56	0.25	0.44	0.00	1.00

The CAR average values are positive for the period 2005-2009 and negative for the period 2010-2017. The all BHAR average values are positive in 2005-2009, in 2010-2017 only the mean for BHAR 12 months is negative, other BHAR means in this period are positive. So, in 2010-2017 there was the underperformance of M&As in the short-term perspective. Also, the percentage of knowledge-based M&As is the highest in the latest period.

The percentage of knowledge-based M&As differs from one industry to another. In the oil & gas industry, the share of knowledge-based M&As is relatively low, meanwhile, in the telecommunication industry, this percentage is the highest. The descriptive statistics of these two industries are presented in the tables below.

**Table 11.** Descriptive statistics of the oil & gas industry

Variable	Obs	Mean	Std. Dev.	Min	Max
car	31	0.01	0.03	-0.04	0.09
car2	31	0.01	0.04	-0.10	0.09
bhar12m	31	0.06	0.28	-0.55	0.75
bhar18m	31	0.09	0.41	-0.71	1.10
bhar24m	31	0.23	0.66	-0.84	2.69
bhar30m	31	0.23	0.62	-0.83	2.38
bhar36m	31	0.21	0.77	-0.64	3.37
dealsize	31	0.02	0.03	0.00	0.16
related	31	0.13	0.34	0.00	1.00
pb	31	1.70	1.14	0.57	4.65
size	31	21.50	1.25	19.08	23.22
exp	31	1.00	0.00	1.00	1.00
liquidity	31	1.54	1.27	0.51	7.80
car0	31	0.03	0.19	-0.26	0.54
oil	31	4.29	0.33	3.51	4.73
market	31	0.61	0.50	0.00	1.00
motive	31	0.03	0.18	0.00	1.00

**Table 12.** Descriptive statistics of the telecommunication industry

Variable	Obs	Mean	Std. Dev.	Min	Max
car	24	-0.01	0.02	-0.05	0.03
car2	24	0.00	0.03	-0.06	0.05
bhar12m	24	0.13	0.51	-0.30	1.96
bhar18m	24	0.16	0.73	-0.35	2.46
bhar24m	24	0.15	0.84	-0.59	2.81
bhar30m	24	0.13	0.94	-0.71	2.99
bhar36m	24	0.19	1.24	-0.70	3.96
dealsize	24	0.03	0.07	0.00	0.34
related	24	0.33	0.48	0.00	1.00
pb	24	3.04	1.62	0.28	5.27
size	24	19.44	1.14	16.34	20.28
exp	24	1.00	0.00	1.00	1.00
liquidity	24	1.10	0.85	0.37	4.16
car0	24	-0.05	0.30	-0.94	0.37
oil	24	4.37	0.31	3.84	4.78
market	24	0.54	0.51	0.00	1.00
motive	24	0.50	0.51	0.00	1.00

The average CARs and BHARs values for the oil and gas industry are positive, while the average CAR value is negative for the telecommunications industry and CAR2 is also lower for this industry. Thus, industries with a higher percentage of knowledge-based M&As perform worse in the short-term, which is consistent with the previous results. In the long-term, there are no consistent results.

## 5.6. Regression analysis

According to event study analysis, only the following abnormal returns are significantly different from zero: BHAR 18m, BHAR 24m, BHAR 30m, BHAR 36m. So, the regression models have been built only for these dependent variables. The tables below show the results of the regression analysis.

**Table 13.** Regression analysis for BHAR 18 months

Source	SS	df	MS
Model	13.33	10	1.33
Residual	39.18	82	0.48
Total	52.51	92	0.57

Number of obs	93
F( 10, 82)	2.79
Prob > F	0.01
R-squared	0.25
Adj R-squared	0.16
Root MSE	0.69

bhar18m	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dealsize	0.03	0.15	0.18	0.86	-0.27	0.32
<b>related</b>	<b>0.33</b>	<b>0.18</b>	<b>1.86</b>	<b>0.07</b>	<b>-0.02</b>	<b>0.68</b>
<b>pb</b>	<b>-0.08</b>	<b>0.04</b>	<b>-2.10</b>	<b>0.04</b>	<b>-0.16</b>	<b>0.00</b>
<b>size</b>	<b>-0.10</b>	<b>0.05</b>	<b>-2.14</b>	<b>0.04</b>	<b>-0.19</b>	<b>-0.01</b>
exp	0.12	0.39	0.31	0.76	-0.66	0.91
liquidity	-0.10	0.06	-1.61	0.11	-0.22	0.02
car0	0.34	0.22	1.60	0.11	-0.08	0.77
<b>oil</b>	<b>-0.62</b>	<b>0.25</b>	<b>-2.50</b>	<b>0.02</b>	<b>-1.12</b>	<b>-0.13</b>
market	0.09	0.15	0.58	0.56	-0.22	0.39
motive	-0.01	0.20	-0.04	0.97	-0.40	0.39
_cons	4.91	1.46	3.37	0.00	2.02	7.81

The model with BHAR 18 months is significant at a 5% level. The R-squared is 25%, while the adjusted R-squared is 16%. The variables RELATED, PB, SIZE, OIL are significant at 10% level. Acquirer to target relatedness has a direct relationship with abnormal returns, whereas price-to-book ratio, size, and oil have a negative relationship with abnormal returns.

Tests on multicollinearity, heteroscedasticity, and omitted variables have been carried out. The model has no multicollinearity, no heteroscedasticity, and no omitted variables (see Appendix 2).

**Table 14.** Regression analysis for BHAR 24 months

Source	SS	df	MS
Model	12.78	10	1.28
Residual	39.46	82	0.48
Total	52.24	92	0.57

Number of obs	93
F( 10, 82)	2.66
Prob > F	0.01
R-squared	0.24
Adj R-squared	0.15
Root MSE	0.69

bhar24m	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dealsize	-0.12	0.15	-0.84	0.41	-0.42	0.17
related	0.09	0.18	0.51	0.61	-0.26	0.44
<b>pb</b>	<b>-0.08</b>	<b>0.04</b>	<b>-1.96</b>	<b>0.05</b>	<b>-0.15</b>	<b>0.00</b>
<b>size</b>	<b>-0.13</b>	<b>0.05</b>	<b>-2.75</b>	<b>0.01</b>	<b>-0.22</b>	<b>-0.04</b>
exp	0.47	0.40	1.18	0.24	-0.32	1.26
liquidity	-0.10	0.06	-1.66	0.10	-0.23	0.02
car0	0.01	0.22	0.03	0.97	-0.42	0.44
<b>oil</b>	<b>-0.87</b>	<b>0.25</b>	<b>-3.46</b>	<b>0.00</b>	<b>-1.37</b>	<b>-0.37</b>
market	0.13	0.15	0.82	0.41	-0.18	0.43
motive	-0.08	0.20	-0.39	0.70	-0.47	0.32
_cons	6.29	1.46	4.31	0.00	3.38	9.19

The model with BHAR 24 months as a dependent variable is significant at a 5% level. The R-squared is 24%, while the adjusted R-squared is 15%. The variables PB, SIZE, OIL are significant at a 10% level. They have a negative relationship with abnormal returns.

The model has no multicollinearity, no heteroscedasticity, and no omitted variables (see Appendix 2).

**Table 15.** Regression analysis for BHAR 30 months

Source	SS	df	MS
Model	14.21	10	1.42
Residual	48.79	82	0.59
Total	63.00	92	0.68

Number of obs	93
F( 10, 82)	2.39
Prob > F	0.02
R-squared	0.23
Adj R-squared	0.13
Root MSE	0.77

bhar30m	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dealsize	-0.04	0.16	-0.26	0.79	-0.37	0.28
related	0.08	0.20	0.38	0.70	-0.32	0.47
<b>pb</b>	<b>-0.08</b>	<b>0.04</b>	<b>-1.90</b>	<b>0.06</b>	<b>-0.17</b>	<b>0.00</b>
<b>size</b>	<b>-0.12</b>	<b>0.05</b>	<b>-2.27</b>	<b>0.03</b>	<b>-0.22</b>	<b>-0.01</b>
exp	0.52	0.44	1.18	0.24	-0.36	1.40
liquidity	-0.09	0.07	-1.28	0.20	-0.23	0.05
car0	-0.11	0.24	-0.44	0.66	-0.59	0.37
<b>oil</b>	<b>-0.93</b>	<b>0.28</b>	<b>-3.34</b>	<b>0.00</b>	<b>-1.49</b>	<b>-0.38</b>
market	0.18	0.17	1.08	0.28	-0.16	0.52
motive	-0.11	0.22	-0.51	0.61	-0.55	0.33
_cons	6.28	1.62	3.87	0.00	3.05	9.51

The model with BHAR 30 months as a dependent variable is significant at a 5% level. The R-squared is 23%, while the adjusted R-squared is 13%. The variables PB, SIZE, OIL are significant at a 10% level. They have a negative relationship with abnormal returns.

The model has no multicollinearity, no heteroscedasticity, and no omitted variables (see Appendix 2).

**Table 16.** Regression analysis for BHAR 36 months

Source	SS	df	MS
Model	18.94	10	1.89
Residual	66.09	82	0.81
Total	85.03	92	0.92

Number of obs	93
F( 10, 82)	2.35
Prob > F	0.02
R-squared	0.22
Adj R-squared	0.13
Root MSE	0.90

bhar36m	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dealsize	-0.17	0.19	-0.87	0.39	-0.55	0.21
related	0.16	0.23	0.71	0.48	-0.29	0.62
pb	-0.06	0.05	-1.28	0.21	-0.16	0.04
<b>size</b>	<b>-0.14</b>	<b>0.06</b>	<b>-2.34</b>	<b>0.02</b>	<b>-0.26</b>	<b>-0.02</b>
exp	0.54	0.51	1.05	0.30	-0.48	1.56
liquidity	-0.08	0.08	-1.01	0.31	-0.24	0.08
car0	-0.18	0.28	-0.66	0.51	-0.74	0.37
<b>oil</b>	<b>-1.08</b>	<b>0.33</b>	<b>-3.31</b>	<b>0.00</b>	<b>-1.72</b>	<b>-0.43</b>
market	0.33	0.20	1.67	0.10	-0.06	0.73
motive	-0.13	0.26	-0.50	0.62	-0.64	0.38
_cons	7.22	1.89	3.82	0.00	3.46	10.98



The model with BHAR 36 months as a dependent variable is significant at a 5% level. The R-squared is 22%, while the adjusted R-squared is 13%. The variables SIZE and OIL are significant at a 5% level. Size and oil have a negative relationship with abnormal returns.

The model has no multicollinearity, no heteroscedasticity, and no omitted variables (see Appendix 2).

The first model BHAR 18 months has the largest R-squared 25%. According to AIC criteria, it is also the best model. The results are robust across different models, as the signs of significant variables remain unchanged. As already mentioned, the variables RELATED, PB, SIZE, OIL are significant at a 10% level. The interpretation of obtained results is the following:

1. RELATED: M&As of companies that operate in related industries have higher abnormal returns by 0.33 p.p. This result is consistent with previous studies. So, the expected relationship has been proved.

2. PB: On average, all other things being equal, when the price-to-book ratio rises by 1, the abnormal returns decrease by 0.08 p.p. The same results have been obtained in many previous studies. So, the expected relationship has been proved.

3. SIZE: when size rises by 1%, the abnormal returns decrease by 0.1 p. p. This result is consistent with some previous studies, moreover, the expected relationship has been proved.

4. OIL: when oil prices increase by 1%, the abnormal returns decline by 0.62 p. p. In this case, our expected relationship has not been proved.

Thus, the following hypotheses have been tested in this work:

Hypothesis 1: The M&A market performance of Russian companies is positively related to *an acquirer to target relatedness/similarity*.

Hypothesis 2: In Russia, M&As with *a knowledge-based motive*, on average, show lower market performance, than deals with *a property-based motive*.

Hypothesis 3: The M&A market performance of Russian companies is negatively related to *the price-to-book ratio*

Hypothesis 4: The M&A market performance of Russian companies is positively related to *oil prices*

Hypothesis 5: The market performance of M&As conducted on *the bearish market* is higher, than on *the bullish market*.

The first hypothesis is accepted: according to regression analysis, M&A performance is higher for the companies from related industries. The second hypothesis is rejected, as the variable *motive* is insignificant, so in the long-run, there is no difference if the firm had property-based or knowledge-based motives. The third hypothesis is accepted: the price-to-book ratio is negatively related to M&A performance. The fourth hypothesis is rejected, as the negative relationship

between oil prices and M&A performance has been revealed. The last hypothesis is rejected, as the variable *market* is insignificant, so there is no difference in the long term under which market sentiment the M&A has been conducted.

## 5.7. Discussion

This research is focused on the performance of M&As on the Russian stock market. The M&A performance measure in this research is the abnormal returns. The benchmark is the Moscow Exchange Russia Index. The abnormal returns are significant for 18 months, 24 months, and 30 months periods. The means of long-term abnormal returns are positive, however, the medians are negative, so there is a shift towards positive values. The market value-weighted average has also been calculated and it is higher than the ordinary averages, so companies with a higher market value perform better.

After calculating abnormal returns, the relationships between M&A performance and some firm, industrial and macroeconomic factors have been investigated. Hypotheses predicting these relationships have been developed based on Russian and foreign scientific literature. Hypothesis testing was carried out using regression analysis tools.

The first relationship that has been investigated is the industry similarity of an acquirer and a target. It can be concluded that companies involved in M&As in related industries perform better than companies in unrelated industries. These results are consistent with studies on other markets and allow us to conclude that similarities in acquirer and target can increase M&A performance.

The research also demonstrates that there is no difference in M&A performance of companies doing knowledge-based or property-based M&As. These results are different from the US market, where companies that conducted knowledge-based M&As perform worse.

Also, there is no difference in the performance of M&As conducted in the bearish or bullish markets. Significant results on the price-to-book ratio of an acquirer have been obtained. There is a negative relationship between this factor and the long-term M&A performance. So, the high P/B ratio can be not only an indicator of high investment opportunities but also an indicator of overvaluation, and the second option often occurs in M&A deals.

The significance of the *oil prices* variable demonstrates that the Russian macro environment and M&A performance are related. The reverse relationship between M&A performance and oil prices may mean that, on the one hand, in poor market conditions, deals are conducted more thoughtfully, resulting in higher post-M&A performance. On the other hand, it could mean that M&A deals can be a good means of survival in the economic downturn, so, the companies that managed to conduct M&A can perform better than their peers.

The control variable *size* demonstrated significant results. The reverse relation can mean that impact of M&A on a big company can be not so obvious in comparison with smaller ones. Moreover, it can mean that a big company can have excessive cash and invest in M&As with zero and negative NPV, as according to Free Cash Flow theory, management is very reluctant to distribute cash among the shareholders.

Although some consistent results have been obtained, there is still room for future research. The criterion for relatedness evaluation was a two-digit OKVED code. There is still an opportunity to measure relatedness by some other criteria (four-digit OKVED code, for instance). Moreover, the insignificance of variable motives may mean that a different approach to the classification of motives can be chosen.

### **5.8. Managerial implications**

The following recommendations have been formulated for managers, investors, and investment bankers.

Managers: M&A performance can be increased by conducting a careful assessment of the similarities between companies, and then conduct M&A deals when significant similarities are found. Particularly, it is better to conduct M&As in related industries.

Investors/shareholders: companies that conduct M&As in similar industries can perform better than their peers, so depending on the context such deals are preferable. Moreover, the high P/B ratio can be not only an indicator of high investment opportunities but also an indicator of overvaluation. The inverse relationship between P/B and M&A performance shows that the acquires are often overvalued. Besides, conducting M&A deals during a recession often creates value for the acquirers, that is why it is better to invest in companies that managed to conduct the M&A tough times.

Investment bankers: The negative relation between the firm size and the M&A performance can mean that larger companies invest in M&A deals less carefully, so the additional profound analysis of the motives and reasons for M&A of big companies can increase their performance. The insignificance of such factors, as motives (knowledge-based or property-based) and market sentiment (bull or bear), can mean that considering these factors may be not so important for M&A analysis and it is better to focus on other crucial things.

## CONCLUSION

The study reveals that the concepts of “merger” and “acquisition” have different meanings in domestic and foreign scientific literature, and Russian legislation does not fully consider these terms. There are several classifications of M&As according to various criteria: the nature of the integration, the country of origin of participants, the resource pooling method, the attitude of the management personnel, etc. The motives for M&A deals are also varied. The work considered the main theories on M&A motives: Efficiency Theory, Agency Theories, Free Cash Flow Hypothesis, Market Power Hypothesis, Diversification Hypothesis, Information Hypothesis, Bankruptcy Avoidance Hypothesis.

The key construct in this research is “M&A performance”. In domestic and foreign literature there is no consensus on what is M&A performance and how to measure it. In this work, the event study method has been used to obtain abnormal performance. The positive or negative abnormal performance will indicate “good” or “bad” performance respectively.

The event study has been conducted on the sample of the Russian companies on the period of 2005-2017. The total number of observations amounted to 93. The results of the event study are the following: the long-term abnormal returns for 18 months, 24 months, and 24 months are significant at a 5% level. The means of abnormal returns are positive, thus, companies that conducted M&As on average perform better than their peers.

After a careful analysis of existing literature, the following factors of M&A performance have been chosen for research: acquirer to target relatedness, M&A motives, the price-to-book ratio of the acquirer, oil prices, and market conditions. The acquirer to target relatedness has been identified by a two-digit OKVED code. The M&A motive is a really wide concept, for this study, two main groups of motives have been identified: knowledge-based and property-based. Market conditions refer to a bullish or bearish market.

The research results show that companies that conduct mergers and acquisitions in related industries, on average, perform better, therefore, depending on the context, such deals are preferable. Moreover, there is an inverse relationship between the P / B ratio and the M&A market performance on the Russian market, and therefore investors need to be wary of overvaluation. In addition, companies that conduct M&A deals during a recession perform better than companies that invest in good times. Finally, a negative relationship between firm size and the performance of mergers and acquisitions may mean that larger companies are more careless about mergers and acquisitions, and therefore need a more thorough analysis of the motives and reasons for this type of deals.

However, no difference was found in the performance of M&As with knowledge-based or property-based motives. Also, the market sentiment (bull or bear market) did not show any significant relationship with M&A performance.

To sum up, on the Russian market, as well as on other markets, the acquirer to target industry relatedness increases the chances of successful M&As, so, the similarities between acquirer and target is an important criterion in M&A analysis. Moreover, the result on negative relation between P/B and M&A performance can be a sign of presenting overvaluation on the Russian M&A market.

The specificity of the Russian market is that there is no difference in the performance of knowledge and property M&As, meanwhile, on the developed markets knowledge M&A underperform. Moreover, the macro environment, in particular oil prices, demonstrates a significant relationship with the M&A market performance which means that the macro factors are better taken into account when analyzing M&A in Russia.

## REFERENCES

1. Amit, R., & Schoemaker, P. J. (1993). Strategic assets and organizational rent. *Strategic management journal*, 14(1), 33-46.
2. Andre, P., Kooli, M., & L'her, J. F. (2004). The long-run performance of mergers and acquisitions: Evidence from the Canadian stock market. *Financial Management*, 27-43.
3. Arikan, A. M. (2002, August). Does it pay-off to capture intangible Assets through Mergers and Acquisitions?. In *Academy of Management Proceedings* (Vol. 2002, No. 1, pp. R1-R6). Briarcliff Manor, NY 10510: Academy of Management.
4. Asquith, P. (1983). Merger bids, uncertainty, and stockholder returns. *Journal of financial economics*, 11(1-4), 51-83.
5. Balashova, S., & Serletis, A. (2020). Oil prices shocks and the Russian economy. *The Journal of Economic Asymmetries*, 21, e00148.
6. Bild, M., Cosh, A. D., Guest, P., & Runsten, M. (2002). *Do Takeovers Create Value?: A Residual Income Approach on UK Data*. University of Cambridge.
7. Cartwright, S., & Schoenberg, R. (2006). Thirty years of mergers and acquisitions research: Recent advances and future opportunities. *British journal of management*, 17(S1), S1-S5.
8. Copeland, T. E., Weston, J. F., & Shastri, K. (2005). *Financial theory and corporate policy* (Vol. 4). Boston: Pearson Addison Wesley.
9. Cormier, S. M., & Hagman, J. D. (Eds.). (2014). *Transfer of learning: Contemporary research and applications*. Academic Press.
10. Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. *Journal of Strategy and Management*.
11. Doukas, J. A., & Lang, L. H. (2003). Foreign direct investment, diversification and firm performance. *Journal of International Business Studies*, 34(2), 153-172.
12. Finkelstein, S., & Halebian, J. (2002). Understanding acquisition performance: The role of transfer effects. *Organization Science*, 13(1), 36-47.
13. Francoeur, C. (2006). The long-run performance of cross-border mergers and acquisitions: Evidence to support the internalization theory. *Corporate Ownership & Control*, 4(2), 312-323.
14. Fröhls, M. A., Keown, A., McNabb, M., & Martin, J. (1998). Growth opportunities, corporate governance and the market value of multinational joint ventures. *Managerial and Decision Economics*, 19(1), 13-30.
15. Gerbaud, R. R., & York, A. S. (2007). Stock market reactions to knowledge-motivated acquisitions. In *Advances in mergers and acquisitions*. Emerald Group Publishing Limited.

16. Goold, M., & Campbell, A. (1998). Desperately seeking synergy. *Harvard business review*, 76(5), 131-143.
17. Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic management journal*, 17(S2), 109-122.
18. Haleblian, J., Devers, C. E., McNamara, G., Carpenter, M. A., & Davison, R. B. (2009). Taking stock of what we know about mergers and acquisitions: A review and research agenda. *Journal of management*, 35(3), 469-502.
19. Haleblian, J., & Finkelstein, S. (1999). The influence of organizational acquisition experience on acquisition performance: A behavioral learning perspective. *Administrative Science Quarterly*, 44(1), 29-56.
20. Hall, B. H. (1993). The stock market's valuation of R&D investment during the 1980's. *The American Economic Review*, 83(2), 259-264.
21. Hampton, J. J. (1989). *Financial decision making: concepts, problems, and cases*.
22. Sills, D. L. (1968). *International encyclopedia of the social sciences*.
23. Huff, A. S. (1982). Industry influences on strategy reformulation. *Strategic Management Journal*, 3(2), 119-131.
24. Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, 76(2), 323-329.
25. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
26. Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control: The scientific evidence. *Journal of Financial economics*, 11(1-4), 5-50.
27. Kim, E. H., & McConnell, J. J. (1977). Corporate mergers and the co-insurance of corporate debt. *The Journal of Finance*, 32(2), 349-365.
28. Kumar, B. R., & Panneerselvam, S. (2009). Mergers, acquisitions and wealth creation: a comparative study in the Indian context. *IIMB Management Review*, 21(3), 222-242.
29. Leigh, R., & North, D. J. (1978). Regional aspects of acquisition activity in British manufacturing industry. *Regional Studies*, 12(2), 227-245.
30. Lewellen, W. G. (1971). A pure financial rationale for the conglomerate merger. *The journal of Finance*, 26(2), 521-537.
31. Lien, L. B., & Klein, P. G. (2006). Relatedness and acquirer performance. In *Advances in mergers and acquisitions*. Emerald Group Publishing Limited.
32. LIN, L., Lee, C. F., & Kuo, H. C. (2013). Merger and acquisition: Definitions, motives, and market responses. *Encyclopedia of finance*, 541.
33. Lubatkin, M. (2013). *Merger strategies and stockholder value* (pp. 43-57). Routledge.

34. Lubatkin, M. (1983). Mergers and the Performance of the Acquiring Firm. *Academy of Management review*, 8(2), 218-225.
35. Lubatkin, M., & Shrieves, R. E. (1986). Towards reconciliation of market performance measures to strategic management research. *Academy of Management Review*, 11(3), 497-512.
36. Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic management journal*, 13(5), 363-380.
37. Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic management journal*, 22(5), 387-401.
38. Malatesta, P. H. (1983). The wealth effect of merger activity and the objective functions of merging firms. *Journal of financial economics*, 11(1-4), 155-181.
39. Meglio, O., & Risberg, A. (2011). The (mis) measurement of M&A performance—A systematic narrative literature review. *Scandinavian journal of management*, 27(4), 418-433.
40. Mikkelson, W. H., & Partch, M. M. (1989). Managers' voting rights and corporate control. *Journal of Financial Economics*, 25(2), 263-290.
41. Miller, D., & Shamsie, J. (1996). The resource-based view of the firm in two environments: The Hollywood film studios from 1936 to 1965. *Academy of management journal*, 39(3), 519-543.
42. Morck, R., Shleifer, A., & Vishny, R. W. (1990). Do managerial objectives drive bad acquisitions?. *The Journal of Finance*, 45(1), 31-48.
43. Nagano, M., & Yuan, Y. (2013). Cross-border acquisitions in a transition economy: The recent experiences of China and India. *Journal of Asian Economics*, 24, 66-79.
44. Pashtova, L. G., & Maimulov, M. S. (2020). M&A Market Efficiency in Russia: Problems and Prospects. *Finance: Theory and Practice*, 24(1), 76-86.
45. Pastena, V., & Ruland, W. (1986). The merger/bankruptcy alternative. *Accounting Review*, 288-301.
46. Rau, P. R., & Vermaelen, T. (1998). Glamour, value and the post-acquisition performance of acquiring firms. *Journal of financial economics*, 49(2), 223-253.
47. Reed, S. F., Lajoux, A. R., & Nesvold, H. P. (2007). *The Art of M & A: A Merger Acquisition Buyout Guide*. McGraw Hill.
48. Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, 35(3), 718-804.



49. Roll, R. (1986). The hubris hypothesis of corporate takeovers. *Journal of business*, 197-216.
50. Ross, S. A., Westerfield, R. W., & Jaffe, J. F. (2002). *Financial Administration: Corporate Finance*. São Paulo, SP: Atlas, 2, 330-376.
51. Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of financial Research*, 5(3), 249-259.
52. *Russian M&A Review* (2020). KPMG. Moscow, 10-20.
53. Samuelson, P. A. (1970). On the trail of conventional beliefs about the transfer problem.
54. Seth, A., Song, K. P., & Pettit, R. R. (2002). Value creation and destruction in cross-border acquisitions: an empirical analysis of foreign acquisitions of US firms. *Strategic management journal*, 23(10), 921-940.
55. Shrieves, R. E., & Stevens, D. L. (1979). Bankruptcy avoidance as a motive for merger. *Journal of financial and quantitative analysis*, 501-515.
56. Singh, A., & Singh, T. D. (1971). *Take-overs: Their Relevance to the Stock Market and the Theory of the Firm* (Vol. 19). CUP Archive.
57. Song, M. H., & Walkling, R. A. (1993). The impact of managerial ownership on acquisition attempts and target shareholder wealth. *Journal of Financial and Quantitative Analysis*, 439-457.
58. Stallworthy, E. A., & Kharbanda, O. P. (1988). *Takeovers, acquisitions and mergers: strategies for rescuing companies in distress*. Kogan Page.
59. Teece, D. J. (1998). Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets. *California management review*, 40(3), 55-79.
60. Utton, M. A. (1982). *The political economy of big business*. Martin Robertson.
61. Walker, I. E. (1992). *Buying a company in trouble: a practical guide* (Vol. 1). Gower Publishing Company.
62. Wooldridge, J. M. (2015). *Introductory econometrics: A modern approach*. Cengage learning.
63. York, A., & McDaniel, L. (2003). Why managers acquire knowledge resources: Competitive advantage or coping. In *Academy of Management national meetings*.
64. Yu, J., Xu, Y., Sun, P., Yu, H., & Xu, B. (2013). The Market Status Tendency, the Corporation Specified Information, and the Market Announcement Effect of M&A. *Procedia Computer Science*, 17, 258-265.
65. Zollo, M., & Meier, D. (2008). What is M&A performance?. *Academy of management perspectives*, 22(3), 55-77.

66. Владимирова И. Г. слияния и поглощения компаний/Владимирова ИГ //Библиотека управления.-URL: <https://www.cfin.ru/press/management/1999-1/03.shtml> (Дата обращения: 14.04. 2021).
67. Молотников, А. Е. (2006). Слияния и поглощения. Российский опыт. М.: Вершина, 4

**APPENDIX 1**
**Table A1. Acquirers**

<b>Acquiror name</b>	<b>Acquiror two-digit OKVED</b>
Aeroflot - Rossiiskie Avialinii OAO	51
Aktsionernaya Neftyanaya Kompaniya Bashneft OAO	06
Aptechnaya Set 36.6 PAO	70
Bashinformsvyaz PAO	61
Buryatzoloto OAO	7
Chelyabinskii Tsinkovyi Zavod PAO	24
Federalnaya Setevaya Kompaniya Edinoi Energeticheskoi Sistemy PAO	35
FosAgro OAO	64
Gazprom OAO	46
Gorno-Metallurgicheskaya Kompaniya Norilskii Nikel PAO	24
Gruppa Cherkizovo PAO	70
Gruppa Kompanii PIK PAO	41
Inter RAO EES PAO	35
Irkutskoe Otkrytoe Aktsionernoe Obshchestvo Energetiki i Elektrifikatsii	35
KamAZ OAO	29
Magnitogorskii Metallurgicheskii Kombinat PAO	24
Mechel OAO	64
Mobilnye TeleSistemy PAO	61
Moskovskaya Obyedinennaya Elektrosetevaya Kompaniya OAO	35
Mostotrest OAO	42
Neftyanaya Kompaniya LUKoil PAO	71
Neftyanaya Kompaniya Rosneft PAO	06
Novatek PAO	46
Novolipetskii Metallurgicheskii Kombinat OAO	24
Novorossiiskii Morskoi Torgovyi Port PAO	52
Otkrytoe Aktsionernoe Obshchestvo Energetiki i Elektrifikatsii Mosenergo	35
Permskaya Energosbytovaya Kompaniya OAO	35
Publichnoe Aktsionernoe Obshchestvo Mezhdugorodnoi i Mezhdunarodnoi Elektricheskoi Svyazi Rostelekom	61
RBK OAO	64
RusGidro OAO	35
Severstal PAO	24
Surgutneftegaz OAO	06
Tatneft Imeni VD Shashina PAO	06
Tattelekom OAO	61
Territorialnaya Generiruyushchaya Kompaniya N 2 OAO	35
Trubnaya Metallurgicheskaya Kompaniya OAO	64

## APPENDIX 2

Variable	VIF	1/VIF
size	1.43	0.697444
exp	1.25	0.800994
dealsize	1.20	0.831701
motive	1.14	0.876089
pb	1.13	0.882332
oil	1.13	0.884220
liquidity	1.13	0.886022
market	1.13	0.887988
related	1.10	0.909152
car0	1.05	0.955238
Mean VIF	1.17	

**Fig. A1.** Test on multicollinearity of BHAR 18 months model

Variable	VIF	1/VIF
size	1.43	0.697444
exp	1.25	0.800994
dealsize	1.20	0.831701
motive	1.14	0.876089
pb	1.13	0.882332
oil	1.13	0.884220
liquidity	1.13	0.886022
market	1.13	0.887988
related	1.10	0.909152
car0	1.05	0.955238
Mean VIF	1.17	

**Fig. A2.** Test on multicollinearity of BHAR 24 months model

Variable	VIF	1/VIF
size	1.43	0.697444
exp	1.25	0.800994
dealsize	1.20	0.831701
motive	1.14	0.876089
pb	1.13	0.882332
oil	1.13	0.884220
liquidity	1.13	0.886022
market	1.13	0.887988
related	1.10	0.909152
car0	1.05	0.955238
Mean VIF	1.17	

**Fig. A3.** Test on multicollinearity of BHAR 30 months model

Variable	VIF	1/VIF
size	1.43	0.697444
exp	1.25	0.800994
dealsize	1.20	0.831701
motive	1.14	0.876089
pb	1.13	0.882332
oil	1.13	0.884220
liquidity	1.13	0.886022
market	1.13	0.887988
related	1.10	0.909152
car0	1.05	0.955238
Mean VIF	1.17	

**Fig. A4.** Test on multicollinearity of BHAR 36 months model

```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of car

chi2(1)      =      0.28
Prob > chi2  =      0.5969

```

**Fig. A5.** Test on heteroscedasticity of BHAR 18 months model

```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of car

chi2(1)      =      0.34
Prob > chi2  =      0.5616

```

**Fig. A6.** Test on heteroscedasticity of BHAR 24 months model

```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of car

chi2(1)      =      0.60
Prob > chi2  =      0.4383

```

**Fig. A7.** Test on heteroscedasticity of BHAR 30 months model

```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of car

chi2(1)      =      0.60
Prob > chi2  =      0.4383

```

**Fig. A8.** Test on heteroscedasticity of BHAR 36 months model

```
Ho: model has no omitted variables
      F(3, 80) =      1.32
      Prob > F =      0.2746
```

*Fig. A9. Test on omitted variables of BHAR 18 months model*

```
Ho: model has no omitted variables
      F(3, 79) =      1.42
      Prob > F =      0.2432
```

*Fig. A10. Test on omitted variables of BHAR 24 months model*

```
Ho: model has no omitted variables
      F(3, 78) =      0.48
      Prob > F =      0.6969
```

*Fig. A11. Test on omitted variables of BHAR 30 months model*

```
Ho: model has no omitted variables
      F(3, 77) =      0.85
      Prob > F =      0.4731
```

*Fig. A12. Test on omitted variables of BHAR 36 months model*