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Graduate School of Management

Master in Corporate Finance Program

DIVIDENDS OR FINANCIAL SLACK:
WHAT IS MORE VALUABLE FOR SHAREHOLDERS?

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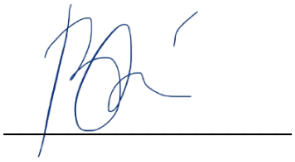
ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

Я, Васильева Ольга Вячеславовна, студентка второго курса магистратуры направления «Менеджмент», заявляю, что в моей магистерской диссертации на тему «Дивиденды или финансовый резерв – что ценнее для акционеров?», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

Все прямые заимствования из печатных и электронных источников, а также из защищенных ранее выпускных квалификационных работ, кандидатских и докторских диссертаций имеют соответствующие ссылки. Мне известно содержание п. 9.7.1 Правил обучения по основным образовательным программам высшего и среднего профессионального образования в СПбГУ о том, что «ВКР выполняется индивидуально каждым студентом под руководством назначенного ему научного руководителя», и п. 51 Устава федерального государственного бюджетного образовательного учреждения высшего образования «Санкт-Петербургский государственный университет» о том, что «студент подлежит отчислению из Санкт-Петербургского университета за представление курсовой или выпускной квалификационной работы, выполненной другим лицом (лицами)».



31.05.22

STATEMENT ABOUT THE INDEPENDENT CHARACTER OF

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I, Vasileva Olga, second year master student, Master in Corporate Finance program «Management», state that my master thesis on the topic « Dividends or Financial Slack: What is more Valuable for Shareholders? », which is presented to the Master Office to be submitted to the Official Defense Committee for the public defense, does not contain any elements of plagiarism.

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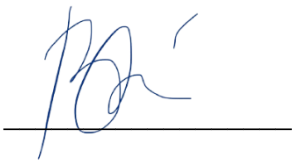


31.05.22

АННОТАЦИЯ

Автор	Васильева Ольга Вячеславовна
Название ВКР	Дивиденды или финансовый резерв – что ценнее для акционеров?
Образовательная программа	Менеджмент
Направление подготовки	Корпоративные финансы
Год	2022
Научный руководитель	Окулов Виталий Леонидович
Описание цели, задач и основных результатов	Цель данного исследования — оценить и сопоставить реакцию на объявление дивидендов двух групп компаний, торгующихся на Московской бирже с 2017 по 2019 год: одной группе рекомендуется создать резерв денежных средств и выплатить скромные дивиденды, а другой — не создавать денежный резерв и выплачивать дивиденды. Прежде в данном исследовании оценивается реакция компаний на объявления дивидендов, по факту имевших или не имевших финансовый резерв в период исследования. Исследование призвано объяснить силу, скорость и направленность реакции российского рынка на объявления о выплате дивидендов: насколько быстро рынок реагирует на поступающую информацию о дивидендах, какую аномальную доходность участники рынка могут получить со своих акций и как и чем отличаются реакции между двумя группами. Задачи - Собрать и обобщить исследования с методом ивент-анализа, связанных с объявлением дивидендов, и проанализировать результаты - Собрать и обобщить существующие исследования об оценке финансового резерва и его ценности для фирм и рынка - Сформулировать исследовательские вопросы и гипотезы на основе собранной информации - Отобрать данные для исследования и модель для оценки реакции - Сравнить реакцию компаний с фактическим наличием или отсутствием финансового резерва на объявление о выплате дивидендов - Сравнить реакцию двух групп (рекомендуется сохранить или выплатить средства) на объявления о выплатах дивидендов и оценить статистическую значимость результатов - Описать ограничения исследования и его практическую значимость Результаты: В течение исследуемого периода отобранная выборка, которая была разделена на две группы в зависимости от наличия или отсутствия финансового резерва, положительно реагировала на объявление дивидендов в день объявления, что нашло отражение в совокупных аномальных доходностях в следующие дни, но

	компании с финансовым резервом реагировали сильнее, что противоречило предложенной гипотезе. Группа, которой было рекомендовано иметь резерв $q>1/k$, встретила сильную положительную реакцию на дивиденды, в то время как группа, рассчитывавшая не сохранять средства, продемонстрировала статистически значимую реакцию только до дня события. Такие результаты можно объяснить неоднородностью ситуации на российском рынке акций: после относительного спокойного 2017 года США ввели санкции в 2018 году, цены на нефть росли, рубль дешевел, а 2019 год был ознаменован исторически самым быстрым рост и самой высокой доходностью, по сравнению с другими рынками в мире. Учитывая такую разницу, годовой анализ также был проведен и описан в исследовании.
Ключевые слова	Ивент-анализ, объявления дивидендов, финансовый резерв, аномальная доходность

ABSTRACT

Master Student's Name	Vasileva Olga
Master Thesis Title	Dividends or Financial Slack: What is more Valuable for Shareholders?
Educational Program Management	Management
Main field of study	Corporate finance
Year	2022
Academic Advisor's Name	Vitaly L. Okulov
Description of the goal, tasks, and main results	The goal of this study is to evaluate and contrast the market reactions to dividend announcements for two groups of companies trading on the Moscow Stock Exchange from 2017 through 2019: one group is advisable to build a cash reserve and pay a modest dividend, while the other should not build a cash reserve and pay cash out in form of dividends. Prior to that, this study assesses the market reaction to announcements of companies that had or did not have a financial reserve during the study period. This study aims to explain the strength, speed, and direction of the Russian market reaction to dividend announcements: how quickly the market reacts to incoming dividend information, to what extent market participants may obtain abnormal returns on their stocks, and how do reactions differ between two groups. Tasks - Collect and summarize event studies of dividend announcements and review results - Collect and aggregate existing studies about assessment of the financial slack and attitude of the market, its value for the firms and market - Formulate research questions and hypotheses based on collected information - Select a data sample and model for reaction evaluation - Compare market reactions to the dividend announcements of companies with factual presence or absence of the financial reserve - Compare market reactions to the dividend announcements of two groups of firms (advisable to preserve cash or to pay out) and assess significance of results - Frame limitations and implications Results: During the studied period, the selected sample, which was divided into two groups based on the presence or absence of a financial reserve, had a positive reaction to the dividend announcement on the day of the announcement and in cumulative abnormal returns afterward, but companies with a financial reserve had a stronger reaction, which contradicted proposed hypothesis. The group, advisable to have a reserve $q>1/k$, met strong positive reaction to

	dividends, while the group expected to not preserve funds demonstrated statistically significant reaction only prior to event day. Such results could be explained by heterogeneity of the Russian stock market situation: after plain 2017 the US imposed sanctions in 2018, the oil prices were growing, the ruble weakened, in 2019 historically fastest growth and the highest returns comparing to other markets of the world. Thus, yearly analysis was also provided.
Keywords	Event analysis, dividend announcement, financial reserve, abnormal returns

Contents

Introduction

All participants on the market are interested to earn more on each possible time perspective: short, medium, and long, however, sometimes this is mutually excluding. Profits allocation should consider interests of different parties which may vary on the short and long distance and this paper considers two options of the companies: dividend payment or preservation of profits in form of cash or short-term liquid investments as a financial slack. On the one hand, the presence of funds allows the organization to provide additional resources in case of financial difficulties, and also provides opportunities for profitable investment in the future. On the other hand, creating a financial reserve means refusal to pay this money to shareholders.

Dividend-paying potential of a firm is an important factor for the potential investors and shareholders who decides on their investment opportunities and gains. Companies are required to establish a dividend policy to decide whether to pay dividends and how to do so. Numerous studies have tried to examine dividend policy, but the question of what constitutes corporate dividend policy remains ambiguous. A company's dividend policy is crucial since it indicates the company's viability and gives information about its future growth prospects (Farrukh, 2017). Additionally, dividend policy may be used to reduce agency expenses. Given that management prosperity is contingent on the wealth of its shareholders, management must have a thorough understanding of dividend policy. Theoretically, the researchers examine the dividend policy process in terms of its influence on market value and its contribution to the welfare of shareholders. In addition, dividend policy influences all elements of financial asset management.

At the same time, there are several evidence found by scholars that there is a steady trend towards an increase in the value of the financial reserve in companies in various countries, including Russia. Additionally, there is an increase in the market value of the financial slack (which is the synonym for financial reserve in this paper and means the easily to be reached cash and short-term investments of the companies), which indicates a positive perception towards the presence of the liquid assets in companies by investors. However, this perception is not fully studied yet and it may fluctuate along with market mood, because the ability of the company to benefit from the creation of the slack largely depends on the uncertainty of the external environment and is determined by the riskiness of the business. Thus, in favorable market conditions the cash funds use for investment purposes will increase the value of the business. Considering existing articles and absence of event studies which consider the financial reserve as an influencing factor to market’s reaction to the dividend announcements, this paper is aiming to fulfill existing gap of the research field and add to

understanding of the Russian stock market behavior.

The goal of this research to evaluate and compare difference in reactions to dividend announcement for two groups of companies traded on the Moscow Stock Exchange from 2017 to 2019: for one group it is advisable to create a cash reserve and pay a low dividend, for another it is not advisable to have a cash reserve and then pay a high dividend. Beforehand, this study evaluates the market reaction to announcements of companies which factually had or did not have the financial reserve in observed period. This study aims to explain the strength, speed and direction of the Russian market reaction to dividend announcements: how quickly the market responds to incoming information on dividend payments, which abnormal returns market participants might obtain on their stocks, and do reaction vary for two groups.

This article evaluates investors attitude to dividends announcements taking into account the companies' riskiness and general assessment by the market. The advisability is not the figurative term, it is assessed with accordance to company's business risk and Tobin's Q, which is indicator measuring the company's market value, such approach was proposed in the article by Berezinets et al (2022), which aimed to develop the model assessing the relevance of the financial slack to companies. The distribution of profits into the financial slack assumes future returns but does not guarantee them, which leaves investors with a choice of what is more important and valuable for them: the dividend income now, or the potential growth of the company in the future, and therefore potentially higher returns also in the future. Since a financial reserve can be created by organizations for various purposes, it is important to clarify that in this paper only the investment motive for creating a reserve is considered (relevant for both advisable and factual reserve of the companies), as investments increases company's value in the long term, which create additional value for shareholders. Comparison of reactions allows to make conclusions about shareholders' perception of companies' decisions (allocated to groups) about dividend payments. This paper aims to investigate Russian stock market reaction to dividend announcements considering financial slack as an alternative to the spot dividend payment.

This topic remains relevant since the results of studies of the signaling theory of dividends in the Russian market have not come to unambiguous conclusions (Berezinets et al,2015,2019), and in general, the topic of dividend policy in the developing Russian financial market needs to be developed, given that the market is relatively young and the economic situation is extremely unstable, which complicates formulation of the results, as the economy as a whole is highly fluctuating and there are often high geopolitical risks. Nevertheless, the emergence of new models

makes it possible to supplement the existing theoretical base by introducing a new division of companies to analyze reactions to the announcement of dividends (Berezinets, Nikulin, Okulov, 2022). Considering, existing articles the period 2017-2019 was selected for the event analysis because it was not studied before and during this period there were plenty of dividend announcements on the Russian Stock market which allowed to create representative sample. The period is characterized by significant fluctuations of the market, including significant fall in April 2018 due to the US sanctions (QBFIN, Lapshina Ksenia, 2018) and significant growth in 2019, however, yearly the Moscow Stock exchange performed some growth. (NAUFOR, 2020) Thus, the studied period includes three different in terms of turbulence and growth years, which represents the instability of the stock market typical for modern Russian history.

Speaking about the practical significance of this study, it should be noted that, supplementing empirical study of theoretical models, conclusions of this paper can be useful for determining the dividend policy of companies, which can make forecasts about the reaction of their shareholders to certain decisions on the distribution of profits for dividends or cash reserves. The consideration of the interests and expectations of shareholders is important for companies, since mass dissatisfaction with the company's dividend policy can lead to impressive losses due to high possibility of falling stocks' prices. However, the question of what is more likely to upset shareholders remains an open question, as overly high dividends can be perceived as irrational management of funds that could be invested in the future of the company instead. Moreover, the market responds continually to macroeconomic, geopolitical or any other type of the somehow related information, resulting in fast stock price movements. If market capitalization reacts favorably to different operational, administrative, investment, or financial measures, the decision may be labeled shareholder-friendly and seen as a driver of value creation. Market capitalization has the highest significance from the standpoint of a shareholder who hopes to earn income from the firm's shares. By selecting the optimal dividend policy company have chances to maximize the welfare of the company's shareholders by increasing company's capitalization and enhance its investment attractiveness. Therefore, the efficacy of the dividend policy and its impact on the firm's market value is a relevant issue for every business.

Considering described ideas and the research goal, further research objectives were formulated:

- Collect and summarize event studies of dividend announcements and review results
- Collect and aggregate existing studies about assessment of the financial slack and

attitude of the market, its value for the firms and market

- Formulate research questions and hypotheses based on collected information
- Select a data sample and model for reaction evaluation
- Compare market reactions to the dividend announcements of companies with factual presence or absence of the financial reserve to the dividend announcements
- Compare market reactions to the dividend announcements of two groups (advisable to preserve or to pay out) and assess significance of results
- Frame limitations and implications

The first chapter consists of the review of theoretical and empirical studies related to dividend payments, to various markets reactions to announcements, then there is a review of the financial slack and its relation to overall company's value described in studies. At the end research gap and questions are formulated on the basis of prior analysis. The second chapter focuses on methodology, including description of event analysis method, process of model selection, and relevant other model considered for grouping data. Then, results of study are presented with explanations and then in summarized conclusions form with limitations and managerial implications description afterwards. The last part of the paper is conclusion, which summarizes the findings.

Literature review

Dividends and the signaling theory

Investors' preference and reaction towards firm's dividend policy have been broadly studied by scholars and practitioners since 1960s. Lintner (1956) was one of the first to raise the issue of the importance of dividend payout decisions for company management and the ability to maintain a high level of dividends. Miller and Modigliani (1961) theory stated that a firm's dividend policy does not affect the value of its stock within a perfect stock market, which means investors do not respond to any change of firm's dividend policy. They mentioned that the market value is only affected by the firm's earning and investment. However, later it was proved later, that in reality it was different.

Therefore, the problem of the potential impact of dividend decisions on the price of shares of companies is relevant and has been growing since the 1970s. occupies a serious place in research in the field of finance. One of the key issues is the assessment of the presence of a signal effect of the company's dividend payments for investors. In its classical formulation, the signaling theory of dividend payments assumes that stock market participants consider dividend payments (changes in their relative size) as a signal of the company's future earnings. Initially, this theory was put forward and tested in relation to developed capital markets in an appropriate institutional environment, characterized by a significant presence of companies with dispersed ownership, the presence of information asymmetry between management and shareholders. With the development of "fast-growing" (emerging) economies, more and more attention began to be paid to the analysis of the reaction of the stock markets of these countries to the dividend policy of companies, to the study of the specifics of investor behavior in conditions of unstable, unevenly developing economies. (Berezinets et al, 2019)

Lintner (1962) and Gordon (1963) argued that since dividend is more certain than the capital gains, investors prefer dividends to the capital gain and react positively towards dividend increase. However, Litzenberger and Ramaswamy (1979) counter argued that, for tax-related reasons, investor would prefer lower dividend payout and react negatively towards dividend increase. Ross (1977) suggested that higher than expected dividend gives signal to the market regarding firm's prospectus future and investors react to the firm's dividend increase positively as it is reflected through stock price increase immediately after such announcement. Even in a semi-strong form of efficient market, market should react to the dividend announcement immediately so as not to

provide the investors any opportunity to earn abnormal returns by devising any trading techniques.

Speaking about the signaling theory of dividend payments, Miller and Rock (1985) have to be noted as the fundamental one in this area. The signal effects of dividends were analyzed at the model level. The authors showed the possibility of using announcements about the amount of dividend payments in the conditions of information asymmetry between insiders (managers) and outsiders (shareholder-investors) of the company as an indirect signal about the likely future performance of the company (its cash flows). It has been noted that dividend payments as a signal are more important for firms that are actually able to deliver "good news" in terms of future performance. In this case, the cost of signaling through growth in dividend payouts is acceptable. With a small level of investment, it is possible for market participants to create a positive expectation of the company's future income, which can provide high dividends in the future.

At the same time Easterbrook (1984) conducted the research about the potential role of dividend payments as a signal to investors. As an alternative to explain the nature and role of company dividend payments, an “agency approach” was put forward, the logic of which implied that dividends should be considered as a tool to limit the power of top management of companies and their potential to destroy shareholder value. In the model, limiting the amount of free funds remaining at the disposal of top management would force him to work under tighter control from capital suppliers from financial markets. Ultimately, this would help create shareholder benefits. In the long run, this approach directly linked dividend payments, free cash flow management, and the existence of companies with different investment prospects - "overinvested" and "underinvested", evaluated, for example, by Tobin's Q indicator.

In a number of empirical works already in the 1980s (e.g., Aharony and Swary, 1980; Divecha and Morse, 1983) it has been shown that dividend announcements affect company stock prices. At the same time, the results obtained by the authors of assessing the direction, strength, and specifics of this influence differed. Thus, in the article (Lang, Litzenberger, 1989), the following were subjected to a comparative assessment: (1) the signaling theory of the influence of dividend payments (cash-flow signaling theory); and (2) free cash-flow theory (“reinvestment”). The logic behind the second approach is that growth in dividend payouts in firms with relatively low Tobin's Q (typically below 1) will limit reinvestment (limit investments in investment projects with negative NPV) and thus, significantly affect the assessment of the company by the market. In turn, for firms with a relatively high Tobin's Q that have not yet entered the reinvestment phase, such a strong effect will not be observed, as the market does not consider changes in their dividend payments as

having a significant impact on the company's investment policy.

Accordingly, for such companies, the impact of dividend growth announcements will be less pronounced. The results of the analysis carried out in by Lang and Litzenberger (1989) were rather in favor of the theory of free cash flow.

Many empirical studies have found the evidence of significant relationship between the change of dividend and the change of stock price in different stock markets. It is observed that stock price increases immediately after the increase in dividend while a decline in stock price is followed by decrease in dividend in some cases. However, even the most developed and transparent US market different studies' results were not homogeneous (Zuguang, 2010).

Speaking broader, Yoon and Starks (1995) studied data sample of the New York Stock Exchange including 3,748 announcements of increased dividend payouts and 431 announcements of reduced and found confirmations of the dividend signaling theory. Moreover, the authors found that firms with increased dividends increased their capital investment over the next three years, and firms with reduced dividends vice versa. Further, the article by Grullon, Michaely and Swaminathan (2002) which considered news about changes in dividend payments of the American stock market companies in the period from the late 1960s to the early 1990s concluded that in the short term (3 days after the announcement) there was a significant market reaction, and the signal theory was confirmed. However, authors have found evidence that over the years firms which increased dividend payouts did not increase their capital expenditures and experienced diminishing returns. Thus, the assumption of the signal theory that an increase in dividend payments brings certain information to the market about an increase in the company's future earnings was not fully confirmed. Therefore, we can conclude that for different periods even the most developed and transparent market of the US results are controversial.

Papers about other markets also supported this instability of signals. On the one hand, there are some studies which corresponded with the signaling theory, for example study of increased and decreased dividends of Greek companies by Dasilas and Leventis (2011). Also, the study of Irish companies by McCluskey et al. included 647 announcements on the period from 1987 to 2001 shown same results but adding that dividend announcements accompanied with earnings information within had stronger signal. However, there are some studies, which results did not correspond the signaling theory. Karim (2010) found that stock returns on NYSE did not show reaction to the dividend announcements of any nature (increase, decrease, no change). Also, Karim (2010) studied London Stock Exchange companies, and reviled negative reaction of investors to

increased dividends and positive reaction to decreased dividends, which contradicted the signaling theory. However, it should be considered that studied period between 2006 and 2008 included the period of the hugest crisis, which certainly affected investors' behavior and expectations. Vieira (2011) also found only limited confirmation in other countries with developed stock markets including France, and Portugal.

Meanwhile in emerging markets research on dividend policy is less common. The paper by Aivazian and Booth (2003), in which the authors compared the US market and the emerging markets of eight countries, should be noted. They assessed the factors influencing the dividend policy of companies, but they did not study the reaction of stock prices to changes in the size of dividends. However, it turned out that these factors are the same in both developed and emerging markets, only the degree of their influence differs. Plenty of other research papers conducted in period of 2009-2014 about emerging markets of Turkey, India, China, Pakistan, South Africa usually performed in accordance with signaling theory. In some cases, both directions were approved increase and decrease in accordance with theory by the market, in some cases only increase of dividends was perceived as it is supposed by theory, like in study by Zuguang and Ahmed (2010) of Chinese market.

Summarizing this part and articles mentioned, we conclude that from period to period, from market to market the reaction of the market to dividend announcements exists but it varies significantly. There are plenty of reasons affecting, which include the stage of market development, the conditions of environment in economy in particular country and in general, the regional specificities. Thus, we have to look closer at the Russian market with its peculiarities, observe the stock market and important external events, which occurred on during studied period 2017-2019 and look at existing articles, related to the topic.

Russian market and related studies

Moving forward to Russian stock market it is important to say that it has several peculiarities, including a relatively small number of companies, a clear dominance of particular industries and the significant role of huge corporate investors and even large state presence as an investor or owner. The relatively short history of the development of the Russian market is replete with striking economic and political events that significantly affect the mood and behavior of investors. To understand situation better we have to look at the yearly results of the Moscow Stock

exchange.

By the end of 2017, the number of Russian issuers of shares on the Moscow Exchange stock market decreased to 230 companies (by 5% compared to 2016). From 2007 to 2017, there has been an average annual decline in the number of issuers by 2.6% (CAGR). Growth in 2008-2011 stands out, the maximum number of public issuers was recorded in 2011, it reached 320 companies. This was largely due to the synergistic effect of the merger of the two trading platforms – the MOEX and the RTS. Then there was a constant decrease in the number of issuers whose shares were traded on the domestic exchange market, the reduction was especially significant in 2012 (by 14.1%). Thus, since 2011 the stock market of the Moscow Exchange 90 share issuers left (28.1% in relative terms). At the same time, the number of share issues included in the quotation lists was more stable, although also on a downward trend. However, in 2017 the quotation lists (the first and second levels) were reduced immediately for 20 issues of securities (by 18.5% in relative terms). This reduction happened due to the tightening of requirements for the listing of shares. (NAUFOR, 2017)

The Russian stock market developed dynamically, and by 2005 its capitalization had reached $600 billion, which accounted for 80% of GDP. In many respects, this became possible due to the high profitability of operations, which was accompanied, however, by high volatility (Goriaev, Zabotkin, 2006). The capitalization of the share market of Russian issuers amounted to RUB 35,914 billion at the end of 2017 (5.0% less to2016). From 2007 to 2017, capitalization remained virtually unchanged (0.8%, CAGR). There is a deep drop in capitalization in the crisis year of 2008 (by 66.4%) and active growth in 2015–2016 (an average of 27.9% annually). The capitalization to GDP ratio reached its maximum value in 2007 and it was equal to 98.5%, at present such a result seems unattainable. In 2017, this figure was 39.0% which was by 5 p.p. less than a year earlier. Noteworthy is the disproportionate dynamics of changes in capitalization and GDP from 2007 to 2017 (capitalization - 0.8%, GDP - 9.7%, CAGR). (NAUFOR, 2017) At the same time, a significant level of market concentration in terms of capitalization should be noted — the share of the top 10 companies in the total value of market capitalization was 78% in 2005, by 2013 this figure had slightly decreased to 62%. The total share of the ten most capitalized issuers practically stopped declining as early as 2011, then until 2017 this figure was at an average level of 61.5% with slight changes within the limits of natural market volatility. There is a significant sectoral shift towards the oil and gas sector, metallurgy, and power generation. Among the ten companies mentioned, seven represent the oil and gas sector and one represents the metallurgy sector. Between 2007 and 2017, trading volume (considering that in 2007-2011 shares were traded on two competing

exchanges) secondary turnover fell by 4.8% (CAGR) yearly. At the end of 2017, the total volume of stock exchange transactions with shares on the domestic market amounted to 9145 billion rubles which is almost the same as a year earlier (a drop of 0.3%). (NAUFOR, 2017)

The volume of exchange transactions with shares on the domestic market reached its maximum value in 2011 (19,609 billion rubles), which is more than twice as much as in 2017. During 2012–2017 the change in the volume of the secondary domestic market for shares of Russian companies did not go beyond the limits of natural market volatility and did not show any fundamental trends and stabilized at an average level of 9.3 trillion rubles per year. In 2017, as in previous years, the domestic equity market turned out to be extremely volatile, and exchange prices showed a wide range. (NAUFOR, 2017)

In 2018, a large number of negative events and shocks were observed on global stock markets: the introduction of several volumes of anti-Russian sanctions, currency fluctuations, high volatility in oil prices, tightening of the rhetoric of the US Federal Reserve, a slowdown in global economic growth, pressure on emerging markets and trade conflicts. Nevertheless, the annual yield of the Moscow Exchange index reached 12%. In early February, the market growth slowed down, and the Moscow Exchange index lost some of its potential against the backdrop of a correction on Western exchanges. On February 5, 2018, the Dow Jones index fell by 1175.21 points, which was the largest drop in points within one day for the entire period of observation of the index. In turn, the VIX volatility index in one day showed a record increase of 115% in history. In total, over the first 9 days of February, the US S&P 500 index fell by 7.2%, while the Russian market fell by only 4.1% due to support from rising oil prices. Then, on April 9 there was a "Black Monday" for the Russian stock market, when the US imposed sanctions against 14 Russian businessmen and 17 officials. In one day the Moscow Exchange index sank by 8.3%. The companies En+, Rusal, Polyus Zoloto, experienced the most negative impact from the introduced measures including the largest bank in the country Sberbank, since it was the creditor of most of the companies included in the sanctions list. However, by the end of April, the indices had already recovered and continued to conquer the highs. Here we have to notice, that most of the dividend announcement were made at May, thus, the effect of this drop was fresh in minds of investors. In early October, the Moscow Exchange index reached a historic high above 2500 points against the backdrop of rising oil prices to a record 5.6 thousand rubles per barrel. (QBFIN, Lapshina Ksenia, 2018)

In terms of sectors, only companies in the oil and gas sector turned out to be better than the

Moscow Exchange index due to the growth of oil quotations from January to October by 25.7%. Thus, the shares of Lukoil, Rosneft, Gazprom, Gazprom Neft and Novatek grew by an average of 35-40%. At the end of the year, the profitability of the MICEX Oil and Gas Index was more than 30%. Also, most metallurgists finished the year with positive results: Alrosa, Norilsk Nickel, Polyus Gold, Severstal and NLMK. The main growth driver for the shares of export-oriented steel companies was the depreciation of the ruble by 21% YoY, which contributed to the improvement in financial performance, which, in turn, allowed the companies to pay record dividends in the summer of 2018. At the end of the year, the profitability of the MICEX Metals and Mining Index reached 5%. Companies in the chemical sector showed an annual yield of 3%. The rest of the sectoral indices ended the year in the red zone. The transport sector sank by 20-25%, repeating the dynamics of Aeroflot shares, which fell against the backdrop of rising oil. The financial sector was under pressure in the second half of the year due to the imposition of sanctions on the Russian public debt. (QBFIN, Lapshina Ksenia, 2018)

It is also worth mentioning the dynamics of oil prices and the US dollar exchange rate, since they most of all influence the Russian stock market and create an external conjuncture. From January to October, the price of oil in dollars rose by 25.7% to $86 per barrel against the backdrop of a gradual reduction in oil production under the OPEC + deal, the withdrawal of Venezuela from the market and expectations of sanctions against Tehran. Also, the increase in the price of "black gold" was facilitated by the reduction in drilling activity in the US and Canada. In October, the cost of oil in rubles exceeded 5,600 rubles. per barrel, which was a historical record, while in dollars, quotes reached a maximum of 3.5 years. After that, from October to December, oil prices fell by more than 40% to $50 per barrel due to Donald Trump's statement about the need to reduce the cost of hydrocarbons and increase drilling activity. The extension of the OPEC+ deal to reduce production at the December 5-7 summit failed to support oil prices, which continued to fall to the level of July 2017. The Russian currency weakened against the dollar by 21% over the year. Since geopolitics is one of the determining determinants of the exchange rate, you can see that there were two sharp appreciations of the dollar: in April and in August against the backdrop of the introduction of anti-Russian sanctions. (QBFIN, Lapshina Ksenia, 2018)

In 2019 the Russian stock market grew noticeably and reached a new all-time high for the Moscow Exchange index due to the external positive background formed because of the transition of world central banks to a stimulating "soft" monetary policy, and the reduction of country risks

for Russia. Sanctions' risks faded into the background, on the other hand, strong macroeconomic data (trade surplus, budget surplus, growth in gold and foreign exchange reserves) improved the credit quality of the Russian Federation. At this background, the financial condition of companies and banks has noticeably improved, which, together with their movement towards increasing dividend payments, has led to the dividend yield of a number of Russian shares began to be calculated in double digits, which became an additional factor in the increased interest of investors in the domestic stock market, experts of Interfax say. (INTERFAX, 2019)The capitalization of the domestic share market in 2019 was RUB 49.0 trillion (an increase since the beginning of the year 22.5%). (NAUFOR, 2020)The capitalization to GDP ratio reached 46%. The number of resident individuals registered on the Moscow Exchange amounted to almost 3.9 million people (growth for the year 97.4%). The number of the individual investment account increased to 1.646 million accounts in 2019 (an increase of 2.7 times since the beginning of the year). (NAUFOR, 2020) At 2018 the number of accounts was 597 thousands. The number of issuers of shares traded on the Moscow Exchange decreased to 212 companies (a decrease from the beginning of the year -4.1%). The share of the ten most capitalized issuers amounted to 70.7% (an increase of 3.0 % since the beginning of the year). The largest five companies Gazprom Sberbank Rosneft, Lukoil, Novatek account for 50.6%.At the end of the year, the RTS dollar index rose by 44.9% to 1548.92 points, while the increase in the Moscow Exchange index due to the almost 13% strengthening of the ruble against the dollar was more modest - by 28.6% (the indicator reached 3045.87 point). For comparison, the growth of American stock indices over the year amounted to 22-35%, European stock markets added 10-28% in dollar terms, the Japanese Nikkei 225 rose by 19%, the Hong Kong Hang Seng by 10.2%, the Chinese CSI 300 - by 33.5%, Australian S&P/ASX200 by 19.6% (changes are recalculated in dollar terms). (INTERFAX, 2019)

After description of the situation on the Russian stock market, we have to focus on existing articles about it. The number of event studies about market reaction to dividend announcement are still limited due to these and other reasons (limited number of observations, heavy effect of other events like crisis, absence of long and regular dividends' payment history of the companies, etc.), thus further opportunities for scholars are quite broad. In next paragraphs the related papers will be described for understanding revealed reactions of different samples in chronological order.

The research by Teplova (2008) considered the 118 dividends announcements for the sample of 24 Russian companies in period of 1999-2006. The main conclusion of this paper was that announcement of increased dividends (in comparison with previous period) led to negative reaction

on the market.

The next paper by Teplova (2011) studied period of 2008-2010, partly including period of the Global Economic crisis and post crisis period. The results shown that since 2009 till middle of 2010 there was a positive reaction in the market to the decreased dividends announcement. However, specifically for oil and gas industry the situation was opposite, decreased dividends caused negative reaction. Across the whole studied period shares' prices decreased and abnormal returns were negative for the companies which increased dividends. The possible reason for that is the investors' expectations about growth opportunities of those companies and mistrust of future revenues growth, as it is proposed by cash-flow signaling theory.

Further, period 2009–2013 was studied by Rogova and Berdnikova (2014) and examined the Russian stock market's reaction to 115 dividend announcements of public companies. The authors also generally did not accept the classical hypotheses of the dividend signaling theory and revealed some industrial specifics in the reaction of investors to the dividend announcements of Russian companies. Stocks of companies in the chemical industry and mining companies react much more strongly and negatively to dividend increases than companies of oil and gas industry. This can be explained by the fact that companies in these industries had the opportunity to grow rapidly by investing their funds in profitable projects, and investors view the increase in dividend payments as an inappropriate withdrawal of funds. The obtained results indicate that investors prefer the residual principle of dividend policy, according to which companies primarily give preference to the implementation of investment projects and only in the absence of profitable projects, dividends are paid. Understanding that a company that increases dividend payments will not bring them profit growth in the future made investors sell their shares. As a result, the market value companies were decreasing. But for oil in gas industries there was another reason for investors to be satisfied with higher dividends, which included decrease of prices on oil and gas. Dividends in this case were perceived as stable earnings in turbulent times for industries. However, abnormal returns fluctuations were not large.

Another research by Berezinets et al (2015) came up with conclusions partly corresponding previous studies by Teplova (2008, 2011). In this case the event-study analysis was conducted on the sample of 45 companies from 16 fields in the period of 2010-2012. During this time both increased and decreased dividend announcements (comparing to the previous period payment) caused negative reaction of the market. Negative abnormal returns in case of decreased dividends is understandable and corresponds common logic and dividend signaling theory, while for the

increased dividends it is not. The authors suggested that this appeared due to specific expectations of investors. As in this research traditional approach to good and bad news was used implying growth/fall comparing to previous period, we may assume that negative reaction was caused by relatively low increase comparing to analysts' estimation. However, in the later research (Berezinets et al, 2015) studying this particular approach by same authors was found same reaction. Thus, it was assumed that the reasons for negative reaction to the dividends' growth appeared due to other expectations. Authors proposed that higher dividends could be perceived as a signal that company did not have a strategy of effective allocation of extra profits into investment projects. Studied period relates to post-crisis when Russian economy started to recover, thus companies were supposed to have plan for further growth and development. Payment of higher dividends meant lost opportunities of future higher profits for investors. (Berezinets et al, 2019)

Summarizing studies about Russian market, results are ambiguous, however, several authors highlighted the perception of high dividends as lost opportunities of future higher profits because of the absence of further development strategy by a company. For oil and gas industries, it was not relevant, as the dividends represented stable earnings during periods of prices fluctuations. Thus, we can conclude that investors are interested not only in earnings at the moment, but they are looking forward to higher earnings in the future, and that aspiration can make them dissatisfied with current high payments as those mean lost opportunities.

Financial slack: meaning, valuation, and market's perception

For successful long-term functioning and growth, companies need funds and managers prefer internal financing sources (Myers and Majluf, 1984) The cash reserve kept by the corporation is one of the internal sources of funding. The financial slack (reserve) is held in corporate accounts, bank deposits (cash), and liquid and reliable assets like short-term investments being part of total organization slack. The organization slack was defined as the difference between the total amount of the company's resources and the amount that must be spent in the course of operating activities, that is, we are talking about those resources that the organization has in addition to those necessary in order to provide a certain (planned) production volume and not framed by cash only, they also include the personnel, the technology, the operating assets and time. (Nohria and Gulati, 1996,

Boso, 2017, Rezende and Macedo, 2020) The great interest for researchers currently lies in studying the personnel slack and the financial slack. (Vanacker , 2017) Both refers to an excessive number of employees or the excess financial resources, which primarily include the company's cash (Paeleman and Vanacker , 2015, Tran, 2018).

There are two perspectives on studying the company's financial slack, which varies due to what we include in slack. There is available slack which is characterized by the presence of short-term assets of the company and is often assessed using liquidity indicators and recoverable slack which includes the cash that is currently invested in the company's operations but can theoretically be extracted from it. (Boso, 2017, Tran., 2018) One more perspective focus is a potential slack, which is assessed to be available in the future by the company. (Duan, 2020) This article considers the available slack as the study is determined to find relation between current perception of funds and expected dividends by the market.

Motives of holding a financial slack also vary and include the transactional motive, the precautionary motive, the investment motive. (Damodaran, 2005) The transactional motive refers to operational needs, which means that company needs some cash to function. The precautionary motive is self-explanatory and refers to funds stored for unforeseen events of losses or higher expenses. The investment motive implies for funds needed for the implementation of the company's planned investment projects. Another reason for the formation of the financial slack in modern companies is the separation of ownership and control, which is attributable to the potential unethical conduct of company's managers, who can use the funds in their interests, which may not cohere with the shareholders' interests. This paper focuses on the investment motive for the formation and use of a financial reserve. This is due to the fact that it is investments that drive the value of the company in the long term. By investing money in various projects, the company expects to create additional value for the owners. (Berezinets et al, 2022)

Employing inner capital is more lucrative opposed to obtaining borrowed funds or issue stocks and bonds. Usage of the financial slack money allow the firm obtain funding quickly and without large transaction fees, since obtaining capital does not involve any commitments to other parties. The funding itself is comparatively cheap - its cost to the firm is equivalent to the anticipated gain on alternative investments of the money, which is generally considerably lower than the rate on the loan or the costs of issuing stocks.

The value of financial reserve in eyes of shareholders depends on different aspects. Along with development of corporate management mechanism the value of the financial slack increased

for investors, as the agent problem was decreased as the level of controlling managers' actions and decision enhanced, which means that managers opportunities to use funds not in interests of shareholders decreased (Chung et al, 2020). Another factor, which contributes to increase of the financial reserve value, is macrocosmic situation in the country and the existence of financial constraints in the particular company (Chang et al, 2016). For companies, which met financial difficulties along with crisis in the country, the value of financial reserve increase for investors, as was found on the example of India (Ranajee and Pathak, 2019). On different periods the value of the financial reserve increased due to different reasons. In 1990s increase was associated with the existence of investment opportunities on the market, while in 2000s it was associated more with instability. Bates et al (2009) found that companies alter the amount of the financial reserve in accordance with external and internal characteristics fluctuations through the time.

The analysis of perception by the market the value of financial slack (its market value) and its balance value became the center of interest among several researchers. Bates et al (2018) found the market value of a dollar putted into the financial reserve used to be $0.61 at 1980s and became 1.12 at 2000s for US companies. Chung (2020) also found the significant growth of the financial reserve market value, because on the period from 1988 to 2013 yearly growth was $0.01 for a dollar putted into the financial reserve.

There several papers studied the interrelation of the financial reserve and financial results of the companies, however, there is no common conclusion of its pattern. Guo et al (2020) studied the sample of Chinese small and medium-sized businesses and revealed a direct relationship between the value of the financial reserve and the operating efficiency of the company. It is important to note that this relationship, according to the authors, appeared due to the investment of the company's financial reserve in research and development. This result is consistent with the earlier statement that it is the investment motive for holding a financial reserve that contributes to the growth of the company's value in the long term (through an increase in short-term financial performance indicators). The presence of a non-linear relationship between the value of the financial reserve and the financial performance of the company was also found by Nohria and Gulati (1996), Geiger and Cashen (2002), Vanacker et al (2017). For example, Vanacker et al (2017) found a quadratic relationship between the indicators, based on which the authors indicate the presence of the optimal value of the financial reserve, which maximizes the financial performance of the company.

Also, historical trends show, companies in different regions tend to increase their cash reserves. Analysis of a representative sample of US firms shows that their total cash reserves in

2011 were four times larger than in 1995 and eleven times larger than in 1979. (Sánchez and Yurdagül, 2013). US corporations have cash reserves of more than $4 trillion in 2020, compared with $1.6 and $2.7 trillion in 2000 and 2010, respectively. (Berezinets, Nikulin, Okulov, 2022) Japanese companies have similar trends; From 1999 to 2011, the average share of cash in total assets of Japanese companies in the non-financial sector increased by about 1.5 times, reaching 15%. (Sher, 2014). Russian companies also demonstrate sizable and steadily growing cash reserve. At the end of the first half of 2021 sum of biggest companies reserves of cash and cash equivalents (including bank deposits) exceeded 200 billion rubles, for example Gazprom (1.4 trillion rubles), Inter RAO (290.2 billion rubles), Surgutneftegaz (4 trillion rubles), Lukoil (555.3 billion rubles), and Yandex (208 billion rubles). Additionally, according to IFRS financial records, PJSC Surgutneftegaz, PJSC Gazprom, and PJSC Lukoil had the highest cash and equivalents reserve at the end of the first half of 2021 for previous 3 years. (Berezinets, Nikulin, Okulov, 2022) However, the usefulness and opportunity to receive profits are closely correlated with uncertainty and riskiness of the business. The model by Berezinets et al (2022), which will be recalled in the methodology part, aimed to find out for which companies it is recommended to have a financial slack.

Concluding this part, the financial reserve size has been increasing across the world in companies of different sizes, its market value also demonstrated the continuous growth. It was forced by different reasons, which relate to enhancement of the mechanisms of corporate management and the external factors. However, there is a room for studies of how the existence, the size of the financial slack influences the company's performance, the market's reaction to decisions about its preservation, enlargement or decreasing via dividends payment, which also can vary in terms of external conditions, thus, we can move to composition of the research questions and hypotheses.

Research question and hypotheses

After review of existing articles, we can make several conclusions and formulate the research gap. Firstly, we found that dividend announcements' effect is widely discussed but in terms of Russian market, number of studies is not large, due to various reasons, such as relatively small age, limited number of listed companies paying dividends, and regional peculiarities of the Russian Stock market. In general, reaction to dividends on different markets and during different conditions

of economy represents different results, thus, Russian market has to be studied separately, and results of other regions' research are not applicable.

Due to ambiguous results, we still meet the problem of understanding market's reaction towards particular events (increasing, decreasing dividends, preserving or paying out cash). This study is going to fill existing gap in research field about market's reaction to dividend announcements considering the financial reserve as one of determining factors, which allow to enhance understanding of Russian shareholders' preferences between dividends and a financial slack by evaluating separately and then comparing two groups of companies. Firstly, we divide sample of companies into two groups considering the factual presence or absence of the financial reserve at a company in particular year and look at the reaction to dividend announcements. Then, the sample will be regrouped one more time, considering the advisability of having reserve for future investment into business development or paying out cash, which is based on Tobin's Q and business' riskiness parameter based on the model proposed by Berezinets et al (2022). One is expected to have a financial slack and lower dividends, while another is expected to pay dividends and do not preserve cash for later investments.

Thus, research questions of this paper are:

How different is shareholders' reaction towards dividend announcement by companies with and without financial reserve?

How the market reacts to the dividend announcements by companies which are advisable to have a financial reserve and by companies which are advised to pay dividends?

Based on the literature review and research questions the further hypotheses are proposed (with short explanations in brackets):

1. Companies with a financial slack will meet modest reaction to dividend announcement by the market comparing to firms without it. (Presence of reserve means opportunity for future returns if company invests it in development, investment motive is the only considered, due to the reason that it increases the value of funds for shareholders)
2. Companies, which are not expected to have a financial slack, will meet greater reaction of the market to the dividends (as those are more valuable for shareholders, due to higher risk of business) than companies, which are expected to preserve a financial slack (for future higher returns).

Methodology

This chapter explains the logic of research strategy and methods. Firstly, it describes the logic of sample's division into groups, which is the essence of this paper differentiating it from other existing papers about market reaction to dividend announcements. Secondly, there is a part describing the event study process in detail, which allow a reader to understand further results fully.

Division into groups

This study aims to compare the difference in market's reaction to dividend announcements of companies divided into groups (1) considering the factual presence or absence of the financial reserve, (2) considering the Tobin's Q and riskiness of the company's business. Further, there is an explanation of calculations of upper mentioned parameters.

Presence/ absence of the financial slack

The information about the presence or absence of the financial reserve is not provided by companies, however, there are several approaches to its calculation. According to Vanacker et al (2017) to state the presence of the financial slack in a company, the value of the indicator used to evaluate it (for example, the ratio of cash to total assets) should exceed the average value (or the median) of this coefficient across the industry. This approach is consistent with the previously discussed definition of the company's financial slack, which does not include all the company's resources, but only that part of them that exceeds the necessary needs of the business. Accordingly, the industry average (or industry median) value of the indicator reflects its "normal" value for companies in this industry under current market conditions. If any company has an indicator value higher than the industry average, this indicates that this company has additional financial resources. Following this logic, Berezinets Nikulin, Okulov (2022) calculated the median across industries and concluded presence/ absence of the financial slack for the sample of the MOEX companies in period of 2017-2019. The following formulas represent the order of calculations:

$$CH = Cash\& \, Short\ Term\ Investment - (Total\ Assets * median\ in\ industry \frac{Cash}{Total\ Assets})$$

$$BV = Total\ Assets - CH$$

$$Reserve = \frac{CH}{BV} \Rightarrow \begin{cases} = 0 \; no \; reserve \\ > 0 \; reserve \end{cases}$$

Tobin's Q and riskiness (volatility)

Second division is based on Tobin's Q of the company. Considering model developed by Berezinets Nikulin, Okulov (2022) for assessing the feasibility of forming a financial reserve this study is continuing the empirical study of projected idea. Authors evaluated model considering that holding a financial reserve by companies is one of the factors that determines the market value of a company.

Tobin's Q indicator is used as a measure of the company's market value:

$$q = \frac{MV}{TA}$$

$$MV = (MV_s + MV_d)$$

Where:

$MV_s$and MV_d- the market value of the company 's equity (market capitalization of the company) and the market value of its debt,

TA- the total amount of the company's assets according to the balance sheet value.

The value q shows how the market evaluates each ruble invested in the company, including all the cash it has. However, q without any context is not really useful, thus we compare q with k, which represents volatility of the market value of the company's production assets, according to calculations by Berezinets Nikulin, Okulov (2022), which is in other words riskiness of the business. Considering the riskiness of the business (k), it is expected by authors (Berezinets et al, 2022) to be inappropriate for a company to have a financial reserve if the condition $q \leq 1/k_i$ is met . The presence of a financial reserve is advisable for the company if $q > 1/k_i$. Such conclusion was made after evaluating binary variable, which was evaluated by authors among others in the model. (Berezinets et al, 2022) Authors mentioned that k the volatility of the market value of assets in the same industry should be approximately the same. (Berezinets et al, 2022) Therefore, the assets of any company in the industry can be characterized by the same indicator k which is taken equal to the average value of for the industry sample of actively traded shares. For this research the calculated k was taken from the paper by Berezinets et al (2022) and represented in the table below. Further, for each industry Tobin's Q "border" was calculated as $1/k_i$, also presented in the table.

Industry	Utilities	Industrials	Basic Materials	Energy	Consumer Cyclicals	Telecommunications Services	Technology
k	1.33	1.21	1.21	1.30	1.14	1.26	1.21
1/k	0.75	0.83	0.83	0.77	0.88	0.79	0.83

Event analysis

For evaluation of different dividend announcements' significance for the market, method of event-study analysis was commonly used in prior research. The purpose of this method is to detect reactions of stock markets to different types of events. Main character of the reaction is abnormal return and cumulative abnormal return, which appeared in short period before and after event. The algorithm for conducting research using the event method is described in detail in the classic work of McKinley (1997).

The key element of event analysis is the event itself, which has an impact on the company's activities. In this article the event is the dividends announcement by companies. It is worth noting that the date of the event is not the date of dividend payment but the date of the public appearance of this news.

An important factor influencing the results of the event analysis is the choice of the period during which stock prices will be observed. The time interval is called the event window. Traditionally, it is believed that the use of long periods of time only makes sense if significant and relatively rare events for the company are analyzed, for example, merger and acquisition. In case of dividend announcements event windows commonly used do not exceed 41 days (20 days prior and past) (Teplova, 2008) In classical paper by Aharony and Swary (1980) for same event-study of the US market 21 days event window was used. Further same event window was used in several papers by authors studying different markets, for example Teplova (2008), Capstaff, Klaboe, Marshall, (2004); Joshipura (2009). However, purpose of this work is to evaluate market reaction right at the spot of event occurrence, thus event window is shortened to 9 days, which include 3 days prior the announcement, day of announcement and 5 days (working week) after. It should be considered that days taken are not calendar but the exchange working days.

The second point we have to cover is the approach to estimation of returns. Prior to study an effect of the event, we have to calculate expected returns to compare them with real (historical)

returns. There are several approaches to estimate normal returns (and then estimate their deviations, abnormal returns): model with an average, standard market model, CAPM and several factors' models (3 and 4 factor model by Fama French). According to studied literature among authors market model is commonly used, thus this article continuing prior studies will employ it as well. (Berezinets et al, 2015) The formula of market model is

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

where:

R_{it} – the i stock return on day t;

R_{mt} - the market index return on day t;

ε_{it} - a random error value.

Market model allows us to calculate the expected or normal returns, which could occur if event does not appear. Here is important to pick the suitable evaluation period for the model, in order to have more or less good predictability by the model. The more observation we have, the better predictability we may expect, some papers suggest taking 180 prior observations (half a year) to event window. Also, the estimation window should not overlap with event window. Considering the fact, that plenty of Russian companies announce and pay dividends several times a year, the estimation period for this paper is 66 observations prior event window, which are in other words are 3 months, which allows in most cases to avoid overlaps of subsequent events. R_{mt} in this article is the IMOEX index, which combines the largest companies of the Moscow Stock Exchange and is perceived as the representative of the conditions on exchange in general. It combines equities of 43 companies.

Then for calculation of the real abnormal returns AR_{it} for stock i for each day t in the event window:

$$AR_{it} = R_{it} - E(R_{it})$$

where:

R_{it} - the return on stock i in day t in the event window

$E(R_{it})$ - the expected return on stock i estimated based on the market model

Further we need to find average abnormal return AAR_t across dividend announcement for each day in the event window:

$$AAR_t = \frac{1}{N \sum_{i=1}^{N} AR_{it}}$$

N – number of dividend announcement

AR_{it} – estimated abnormal i stock return stock on day t

Here we have to mention that for each group of dividends (increased, decreased, same) the calculation of average abnormal return calculated separately.

Cumulative average abnormal return illustrates changes for the whole event window for each category of dividends, which is a sum of AAR in each day of the event window:

$$CAAR_{T1,T2} = \sum_{t=T1}^{T2} AAR_t$$

For approval or disapproval of stated hypotheses we are going to test the standard statistical hypothesis that expected AAR's and CAAR's values significantly differ from zero. (Berezinets, 2019)

$$H0 : E(AAR_t) = 0$$

$$H0 : E(CAAR_t) = 0$$

To test this statistical hypothesis, we run standard t-statistics that the AAR and the CAAR on each day t is significantly different from zero.

$$t_{AARt} = \sqrt{N}\frac{AARt}{SD_{AARt}}$$

where SD_{AARt} – standard deviation across firms at t day

$$t_{CAAR} = \sqrt{N}\frac{CAAR(t_1, t_2)}{SD_{CAAR}}$$

where SD_{CAAR} – standard deviation of cumulative abnormal return across firms. For this paper 10% level of significance is taken due to results of test statistics in recent papers about Russian stock market and dividend announcements. (Berezinets et al, 2015,2019)

Data description

This paper studies effect of dividend announcements of the Russian companies on the Moscow Stock Exchange to their prices. The sample of companies listed in the MOEX and used for event study is presented below in the table1. The period of study is represented by 3 years 2017, 2018, 2019, which are prior severe COVID fluctuations and sometime after 2014 year's sanctions, thus, it was expected to meet less unusual observations of market behavior. The year 2019 was historically most prominent for the Moscow Stock Exchange in terms of returns, which were highest comparing to any stock market in the world according to analytics. (RBC, Lomskaya Tatiana, 2019) The broad description of the period has been presented already, thus in this part the focus is shifted to the description of the sample and distribution to groups. The period has not been studied yet in terms of reaction to dividend announcement considering the financial reserve, thus this adds novelty and cover the gap in research field of the Russian stock market event studies.

Companies were selected considering presence of dividend announcements across the period 2017-2019 and availability of data for reserve calculation, thus not all of the MOEX participants were included. Totally, 55 companies have been selected, which represents 7 industries. Retail firms and financial services are not presented among the chosen companies, as there are industry's specificities which could disturb final results across industries. There are 15 firms of Basic Material, 1 firm of Consumer cyclical goods industry, 9 firms of Energy (Oil&Gas) industry, 4 industrial firms, 1 technology producing company, 6 telecommunications services representatives and 19 firms of utilities sector. Total number of dividends announcement analyzed is 241.

For $q < 1/k$ it was 89 events, and for $q > 1/k$ it was 152 events, which is happened due to several payments per year by several companies. Proportion of companies with low and high q was 1 to 1 in all 3 years, however, frequency of dividend payments was different in companies. Distribution is presented in Appendix1. We have to notice that $q > 1/k$ group is mostly presented by the companies of the Basic materials sector, and some companies of Energy and Telecommunication services. This point is important, as the sectors of Basic Materials and Energy are export oriented, which allowed companies to earn on the weakening of the ruble and increased oil prices. While for companies oriented on the Russian market situation of problematic 2017 and 2018 years turned out to be less profitable (mostly Utilities sector and with low q). The situation with the factual presence of the financial reserve is the same for the Basics materials sector but also among Energy and Industrials sector most of the selected companies had the financial reserve. Proportion of the companies without the reserve to firms with reserves was 5/6 at 2017, 3/5 at 2018

and 4/9 at 2019 (Appendix 2), which is less balanced proportion, however, the number of observations makes it possible to ignore such a disproportion.

One more point to consider, the "black Monday" of 2018 happened at beginning of April, and majority of the dividend's announcements were made on May 2018, thus, we have to consider negative expectations of the investors towards the future, as at the moment, the drop of the MOEX was significant. (QBFIN, Lapshina Ksenia, 2018)List of dividend announcements' dates is presented in Appendix 3.

The data about companies and stock prices was collected from open sources, mostly Finam.

Table 1. Selected companies for event analysis

Ticker	**Company**	**Sector**
AKRN	Akron PAO	Basic Materials
ALRS	AK Alrosa PAO	Basic Materials
CHMF	Severstal' PAO	Basic Materials
GMKN	GMK Noril'skiy Nikel' PAO	Basic Materials
KAZT	KuybyshevAzot PAO	Basic Materials
KZOS	Organicheskiy Sintez KPAO	Basic Materials
LNZL	Lenozoloto PAO	Basic Materials
MAGN	Magnitogorskiy Metallurgicheskiy Kombinat PAO	Basic Materials
NKNC	Nizhnekamskneftekhim PAO	Basic Materials
NLMK	Novolipetsk Steel PAO	Basic Materials
PHOR	PhosAgro PAO	Basic Materials
PLZL	Polyus PAO	Basic Materials
SELG	Seligdar PAO	Basic Materials
TRMK	Trubnaya Metallurgicheskaya Kompaniya PAO	Basic Materials
VSMO	Korporatsiya VSMPO-AVISMA PAO	Basic Materials
PIKK	Gruppa Kompaniy PIK PAO	Consumer Cyclicals
BANE	ANK Bashneft' PAO	Energy
GAZP	Gazprom PAO	Energy
LKOH	NK Lukoil PAO	Energy
NVTK	Novatek PAO	Energy
RASP	Raspadskaya PAO	Energy
ROSN	NK Rosneft' PAO	Energy
SIBN	Gazprom Neft' PAO	Energy
SNGS	Surgutneftegaz PAO	Energy
TATN	Tatneft' PAO	Energy
AFLT	Aeroflot-Rossiyskiye Avialinii PAO	Industrials
KMAZ	Kamaz PAO	Industrials
MSTT	Mostotrest PAO	Industrials
NMTP	Novorossiyskiy Morskoy Torgovyi Port PAO	Industrials

LVHK	Levenguk OAO	Technology
AFKS	AFK Sistema PAO	Telecommunications Services
CNTL	Tsentral'nyi Telegraf PAO	Telecommunications Services
MGTS	Moskovskaya Gorodskaya Telefonnaya Set' PAO	Telecommunications Services
MTSS	Mobil'nye Telesistemy PAO	Telecommunications Services
RTKM	Rostelekom PAO	Telecommunications Services
TTLK	Tattelekom PAO	Telecommunications Services
ASSB	Astrakhanskaya Energosbytovaya Kompaniya PAO	Utilities
ENRU	Enel Rossiya PAO	Utilities
FEES	FSK YeES PAO	Utilities
HYDR	Federal Hydro-Generating Company RusHydro PAO	Utilities
KRSB	Krasnoyarskenergosbyt PAO	Utilities
LSNG	Lenenergo PAO	Utilities
MRKC	MRSK Tsentra PAO	Utilities
MRKP	MRSK Tsentra i Privolzh'ya PAO	Utilities
MRKS	MRSK Sibiri PAO	Utilities
MRKU	Mezhregional'naya Raspredelitel'naya Setevaya Kompaniya Urala OAO	Utilities
MRKV	MRSK Volgi PAO	Utilities
MRKY	MRSK Yuga PAO	Utilities
MRKZ	MRSK Severo-Zapada PAO	Utilities
MSNG	Mosenergo PAO	Utilities
MSRS	MOESK PAO	Utilities
OGKB	OGK-2 PAO	Utilities
RSTI	Rossiyskiye Seti PAO	Utilities
TGKA	TGK-1 PAO	Utilities
UPRO	Yunipro PAO	Utilities

Tables with q values and binary reserve variable for companies are presented in Appendixes 1 and 2.

Results, managerial implications and limitations

The results section of the paper describes event analysis results firstly for two groups of companies divided by factual presence or absence of the reserve at a company and secondly for two groups of companies divided in accordance with Tobin's Q values which are less or more than 1/k. Summary of results and discussion are presented at the part of results discussion and are followed

by managerial implications and limitations of the research.

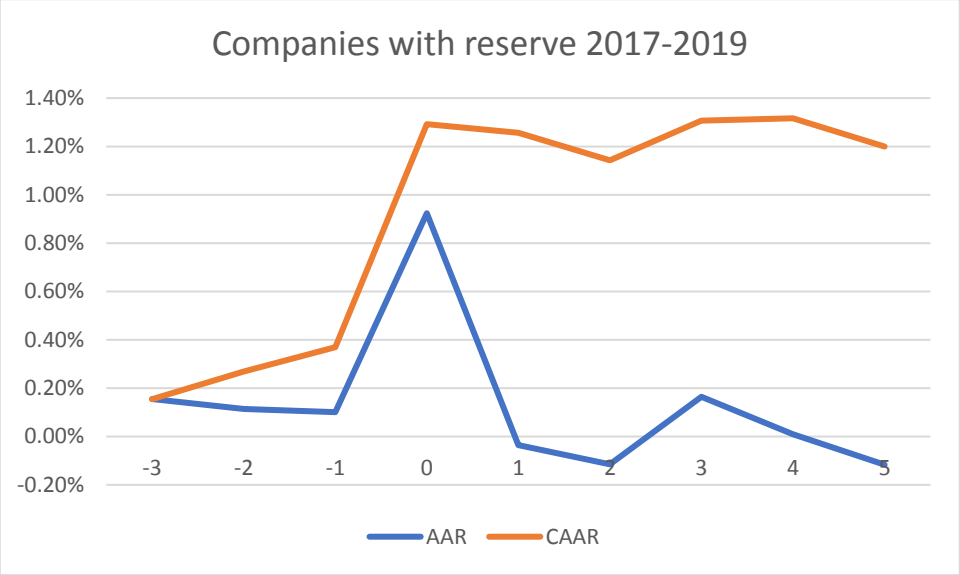
Results: companies with the financial slack and companies without the financial slack

Along studied period some companies did not announce dividends, thus the total number of companies picked for analysis is less than total 55 per year. As we can see from the table 2 below distribution between companies with and without financial slack has been changing. More and more companies started to increase cash amount (and short-term investments). Recalling from the methodology part, company was considered to have a reserve its proportion of cash amount was higher than median value across the industry.

Table 2. Distribution of the sample companies with and without a financial reserve yearly

companies	2017	2018	2019
reserve	28	32	36
no reserve	23	19	16

Companies with financial reserve AARs and CAARs are presented in the graph 1 and table 3 below. Across observed period event analysis represented that at event day t=0 AAR +0.92% and CAAR +1.29% was statistically significant from zero at the level of 5%, which means that market positively reacted to the announcement straight at the moment event occurred. As we can see from the graph 1 AARs decreased back to about zero level the next day after the event. However, we have to notice that at 10% level AARs are still significant at t=-3 and t=3, when AARs were equal to +015% and +0.16%. This illustrates market inefficiency and could be a sigh of inside information trading or positive expectations about further announcement by the market prior the event or the sign of market's inefficiency as the event has effect after some time of emergence. We also cannot exclude the disturbance accruing due to other events on the market, which could touch some companies of the sample. However, CAARs line on the graph 1 is an example of normal reaction by the market, where is a strong effect at the day of event and then slight fluctuations at the new level.



Graph1. AAR and cumulative AAR for 3 years for companies with a financial reserve

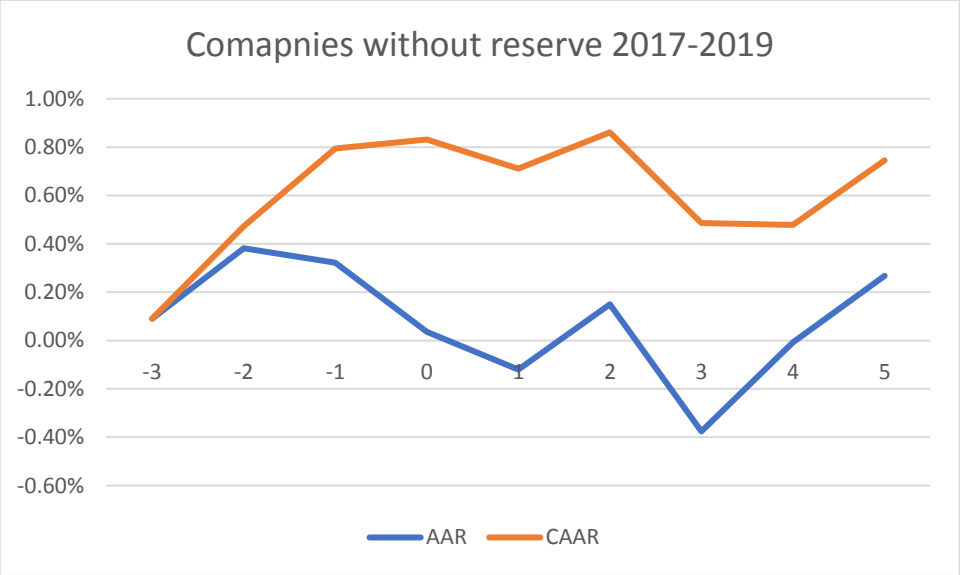
Table3 AAR and CAAR for 3 years for companies with a financial reserve t-statistic

reserve	AAR	t-stat (AAR)	CAAR	t-stat (CAAR)
-3	0.15%	1.370027	0.15%	1.370037
-2	0.11%	1.009078	0.27%	1.682289
-1	0.10%	0.892886	0.37%	1.889091
0	0.92%	8.190263	1.29%	5.731132
1	-0.04%	-0.31692	1.26%	4.984349
2	-0.11%	-1.01723	1.14%	4.134785
3	0.16%	1.458978	1.31%	4.379509
4	0.01%	0.087402	1.32%	4.127556
5	-0.12%	-1.03468	1.%	3.546606

According to t-statistics CAARs are significantly different from zero at the level of 10% for t=-3 and at 5% level at each day of event window since t=-2. Thus, we can conclude that in 2017-2019 for group of companies with a finical slack market demonstrated strong positive reaction. However, in this paper results have meaning only in case of comparison, thus, in following paragraphs we observe the other group of companies which did not have a financial slack.

Graph 2 illustrates average abnormal returns and cumulative AARs for companies without financial slack for observed period 2017-2019. At the glace, we can notice significantly different patterns of reaction to the event, comparing to another group. AAR at the event date was equal +0.04% is tiny and statistically insignificant, while two prior days to event (t=-1 and t=-2) AAR demonstrated positive reaction of the market +0.32% and +0.38% respectively and were statistically

significant at 10% level, which is also applicable for t=3 AAR was -0.38%, however, market was dissatisfied by the event. The CAARs demonstrated positive reaction along the event window, however, the difference from zero was statistically significant only at 10% level for day t=-2 (+0,47%), t=0 (+0.79%), t=1 (+0.83%), t=2 (+0.86%), and at 5% level for day t=-1 (0,79%) (table 4). Such results can be interpreted as following: prior the announcement date market demonstrated positive expectations toward upcoming event, however, at the moment it happened, the reaction was modest. This could appear due to low dividends amount or external factors. Such results contradict our hypothesis 1 about stronger reaction toward dividend announcement effect to the market for companies without the financial reserve.

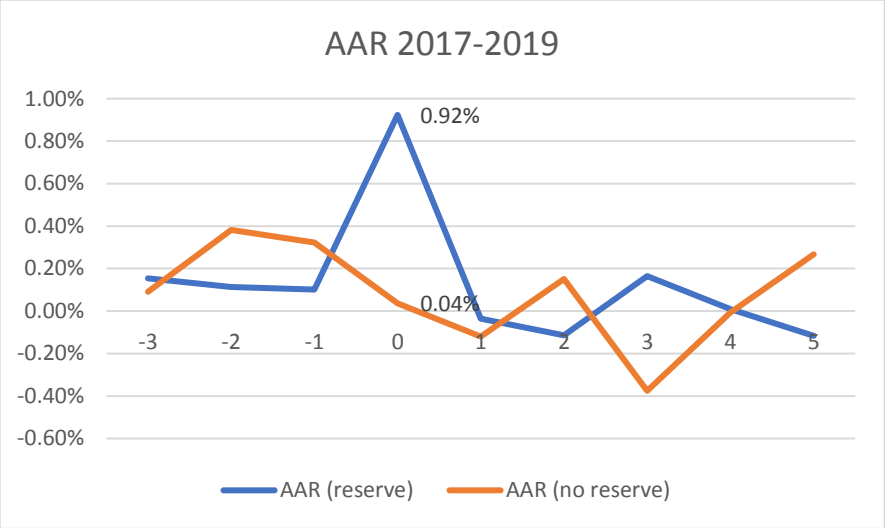


Graph2. AAR and cumulative AAR for 3 years for companies without a financial reserve

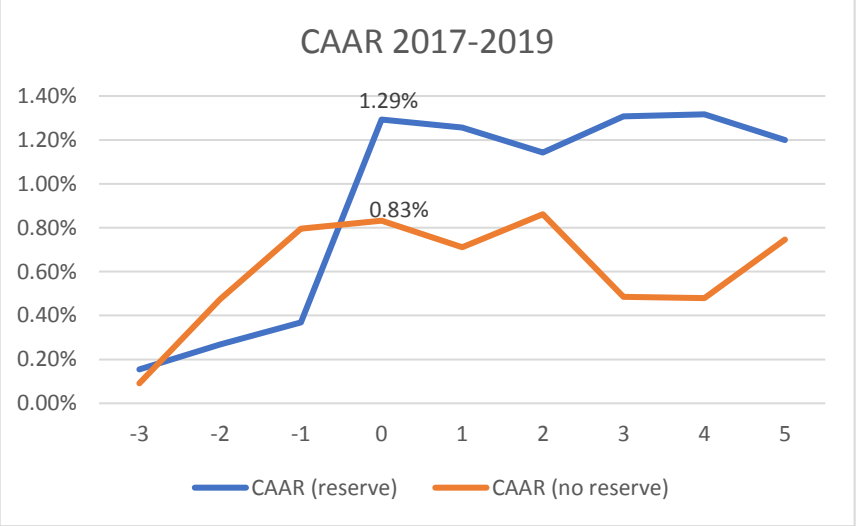
Table4 AAR and CAAR for companies *with without a financial reserve and t-statistic*

No reserve	AAR	t-stat (AAR)	CAAR	t-stat (CAAR)
-3	0.09%	0.384428	0.09%	0.384458
-2	0.38%	1.613485	0.47%	1.412759
-1	0.32%	1.360187	0.79%	1.938817
0	0.04%	0.155065	0.83%	1.756597
1	-0.12%	-0.50911	0.71%	1.343467
2	0.15%	0.63456	0.86%	1.48547
3	-0.38%	-1.58682	0.49%	0.775515
4	-0.01%	-0.02997	0.48%	0.714831
5	0.27%	1.128756	0.75%	1.050201

At graphs 3 and 4 we can see how different reactions for two groups of companies were. Group with reserve met much stronger positive reaction from the market than group without reserve. If we look at the list of companies which had reserve on the observed period (Appendix 2), we see that almost each of the company from basic materials and energy industries had the financial reserve on each of the year. Recalling the market description, we have to notice, that companies of these two industries are export oriented, and considering considerably weakened ruble and growing prices to the oil, we can conclude that positive reaction of the market is the result of the greatest performance of these industries among others on the Russian stock market.



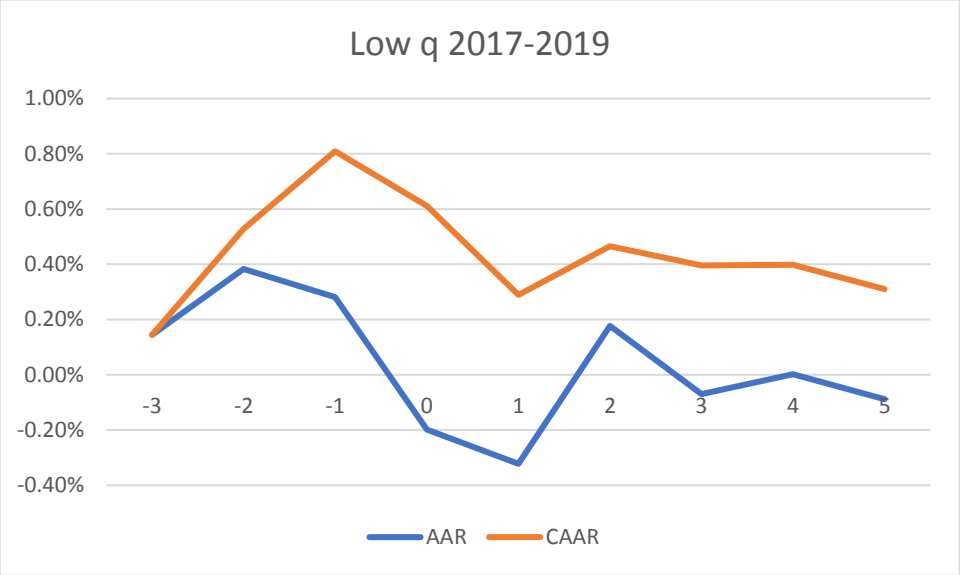
Graph3. Comparison of AAR for companies with and without a financial reserve



Graph4. Comparison of CAAR for companies with and without a financial reserve

Summarizing results for two groups, considering t-statistics, we conclude that companies without financial reserve met positive market reaction prior the event, however, did not consider the event as significant (if we take days separately) but in cumulative terms reaction of the market was positive and statistically significant, however, for group of companies with financial reserve reaction appeared at the event day and was considerably stronger. Such observations allowed us to reject hypothesis one about stronger reaction by market to announcements of companies without the financial reserve.

Results: group q<1/k & group q>1/k



Graph5. AAR and cumulative AAR for 3 years for companies with low q

Table 5. AAR and CAAR for companies *with q<1/k 2017-2019*

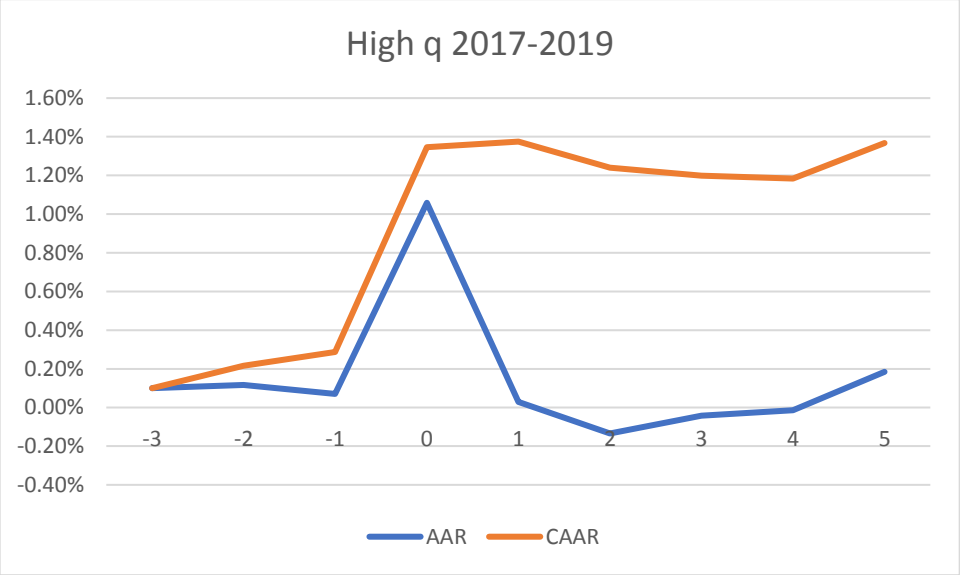
q<1/k	AAR	t-stat (AAR)	CAAR	t-stat (CAAR)
-3	0.14%	0.595227	0.14%	0.595287
-2	0.38%	1.576942	0.53%	1.535998
-1	0.28%	1.159009	0.81%	1.923291
0	-0.20%	-0.81605	0.61%	1.257593
1	-0.32%	-1.32608	0.29%	0.531786
2	0.18%	0.728235	0.47%	0.782753
3	-0.07%	-0.28907	0.40%	0.615429
4	0.00%	0.009062	0.40%	0.578885
5	-0.09%	-0.36108	0.31%	0.425419

The Graphs 5 and 6 represent average reaction by two groups of companies along 3 years to

dividend announcements. Recalling hypothesis, the firms with q<1/k are expected to pay high dividends instead of maintaining a financial while it is advisable for the company q>1/k, however, the reality demonstrated different patterns.

Dynamics of average abnormal returns of group q<1/k is rather modest in comparison to another group. The only significantly different from zero (statistically) AAR were detected at the -2 and -1days to announcement (t=-2, -1) and were equal to +0.38% and +0.28% at the level of 10%. (Table 5) For cumulative average abnormal returns situation is the same, the pick of reaction came to the days before the announcement, accumulated effect was +0.53% and +0.81% at the days t=-2 and t=-1, respectively. At the day of dividend announcement, the test of the common statistical hypothesis of AAR significantly different from zero demonstrates that AAR statistically insignificant (AAR=-0.20%). Further AARs fluctuations remain tiny and statistically insignificant on other days after the announcement which allows us to conclude that market did not perform effectively at studied period 2017-2019 for group of q<1/k. Cumulative abnormal returns accumulated positive attitude towards dividends prior announcement, we can assume that investors expected the meeting and dividend announcement, thus they became more active few days earlier, where CAAR are significantly different from zero. However, after the event we can see slowly decreasing trend and statistically insignificant CAARs. Summarizing, the AARs and CAARs were mostly not significantly different from zero for q<1/k group of firms which was expected to have great reaction to dividend announcements.

Moving forward to second group q>1/k we can see on the graph 6 different dynamics of reaction. The peak of reaction happened on the day of announcement (t=0) in terms of AAR, which reached +1.06% and is the only statistically significant across the event window (graph 6, table 6). The whole pattern of the AARs for q>1/k represents the effective market reaction, which reacts to an event at the spot it appears fully, and then it continues to be flat, until new event disturbs it. We can see this on the visual representation of CAARs (graph 6). Statistically significant on the 5% level AAR at the day of event t=0 tells that event was spotted by the market and was responded. For t statistics of CAARs we can see that accumulated changes are statistically significant on the 5% level since the day of announcement t=0 and further, results presented in the table 6. Cumulative AARs did not significantly changed after the announcement and remained strongly positive with slight decrease. Such pattern also proves the effective market reaction for this group of companies.



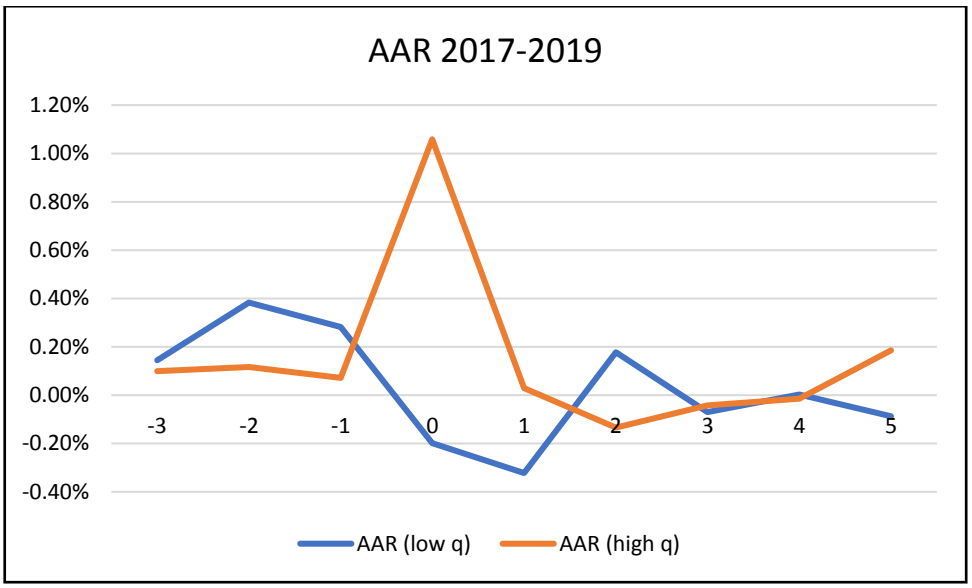
Graph6. AAR and cumulative AAR for 3 years for companies with high q

Table 6. AAR and CAAR for companies with q>1/k 2017-2019

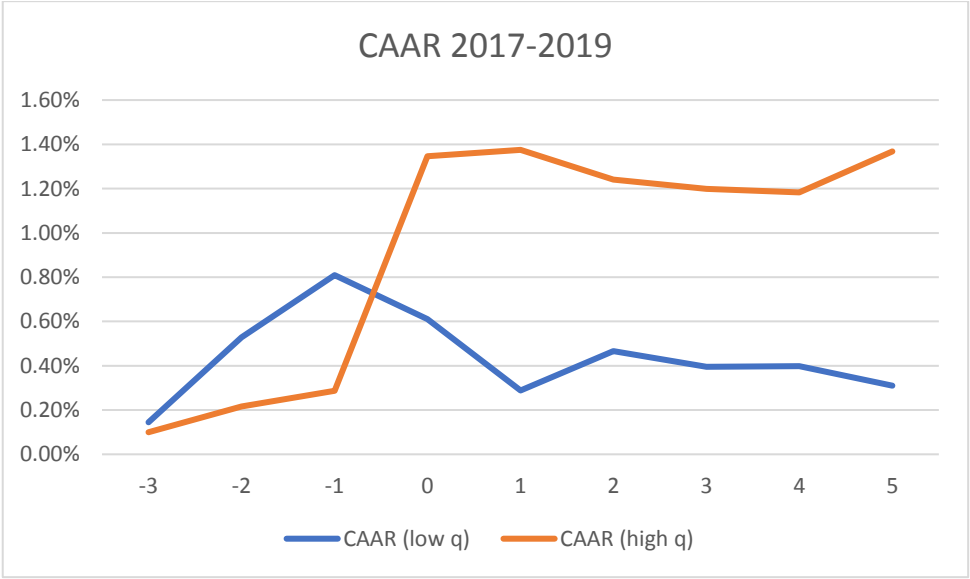
q>1/k	AAR	t-stat (AAR)	CAAR	t-stat (CAAR)
-3	0.10%	0.819913	0.10%	0.819933
-2	0.12%	0.957631	0.22%	1.256928
-1	0.07%	0.582966	0.29%	1.362853
0	1.06%	8.697751	1.35%	5.529141
1	0.03%	0.240143	1.38%	5.052809
2	-0.13%	-1.10291	1.24%	4.162303
3	-0.04%	-0.34944	1.%	3.721469
4	-0.01%	-0.12207	1.18%	3.437959
5	0.18%	1.519128	1.37%	3.747714

At this point, we already can notice that group q>1/k performed greater reaction to the announcements than group q<1/k.

Further graphs 7 and 8 compares reactions of two groups in studied sample. The graphs represent fluctuation of average abnormal returns and consequently cumulative abnormal returns. At the glance, the amplitude of fluctuation varies, and not in the way it was expected. Also, it should be noted that group q<1/k had the strongest reaction prior announcement date, while second group did not perform any significant reaction (also statistically).



Graph7. AAR for 3 years for both group of companies

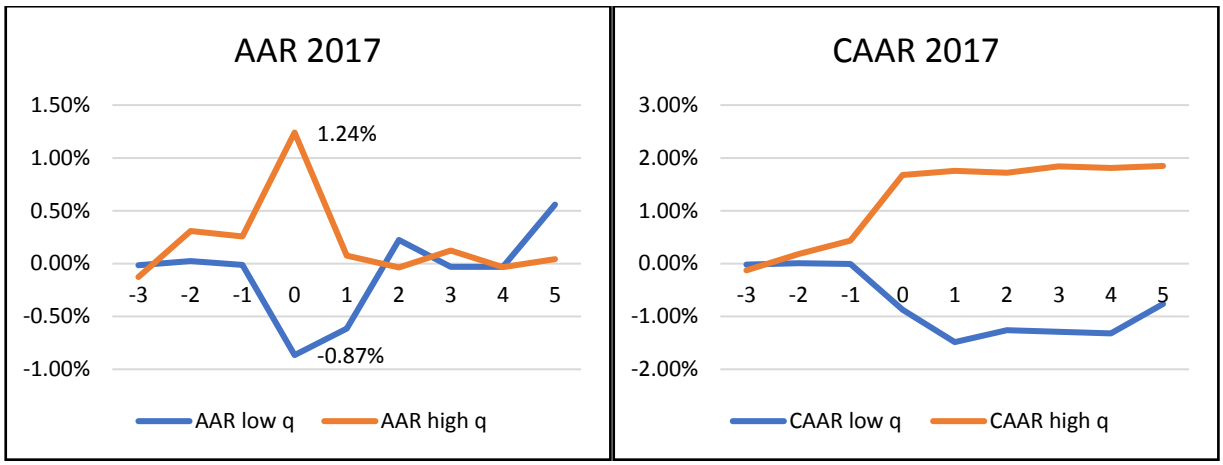


Graph8. Cumulative AAR for 3 years for both group of companies

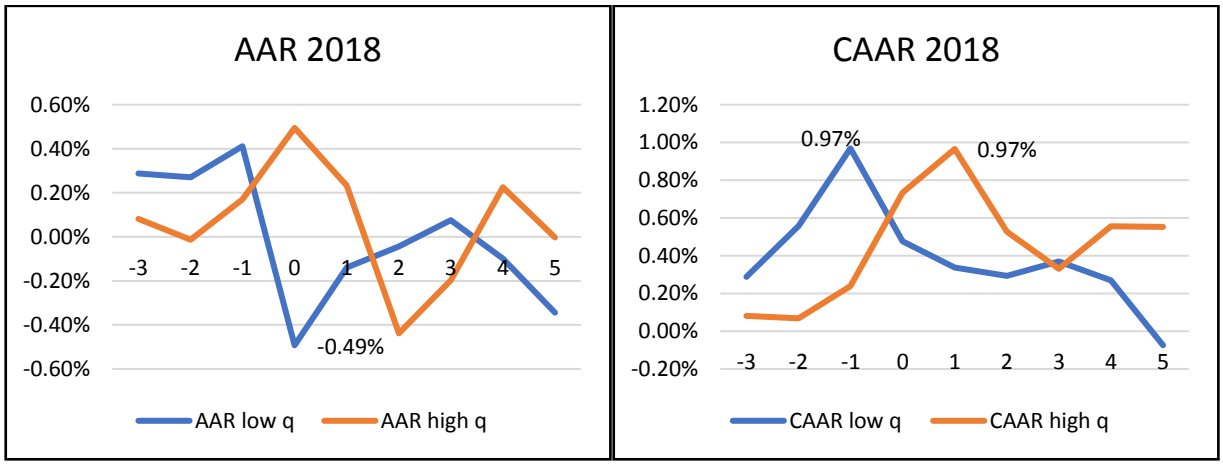
Firstly, we can see that the group q<1/k performed stronger reaction prior the event day in AARs, but comparatively these fluctuations were weaker if we assess the whole event window. The expected reaction was not found in this empirical study, as the event itself was found statistically insignificant for both AARs and CAARs for group q<1/k. The only thing we can propose that the market reacted prior to day of announcement due to expectations, which has already formed. However, comparing visuals and checking statistical test we can conclude that q>1/k performed a

strong reaction in terms of price growth and consequent abnormal returns which were statistically significant. Thus, we can say that hypothesis 2 was not approved, and companies which are advisable to have a financial reserve met positive reaction to dividend announcements along studied period and sample. These empirical findings could occur due to different reasons: size of dividends in groups, investors could perform positive reaction to increased dividends of group $q>1/k$, on the other hand, companies with $q<1/k$ could decrease their dividends due to higher exposure to risks (lower q in our case implies to higher risk, as the k in denominator is greater representing volatility).

Considering surprising outcomes, the yearly results also were analyzed to check the unusual behavior of the low q group. All numbers named afterwards are presented in Appendix 4 in tables. The following graphs 9-13 illustrates AARs and CAARs of both groups for each year of studied period separately (and based on the numbers form Appendix 4). For 2017 the reaction to announcements was polar for 2 groups, for both groups AARs were statistically significant at 10% level at day of announcement t=0 but CAARs were found to be insignificant. The behavior is slightly different from the whole period 2017-2019, as the AARs of low q group did not perform any reaction prior the event and, at the event date demonstrated negative reaction -0.87% and later stabilized to zero level. AARs for low q group were also statistically significant at 10% level for t=1 and t=5 and were equal -0.62% and +0.56% respectively. This reaction tells us that investors were dissatisfied with announcements, however, reasons for that could include the size of the dividend rather than announcement itself brought dissatisfaction. Context of the environment also could influence that. To the end of 2017, the capitalization of Russian issuers shares decreased by 5.0% compared to the previous year. For previous decade capitalization remained almost unchanged. Along previous decade trading volume of secondary turnover fell by 4.8% (CAGR) yearly. At the end of 2017, the total volume of stock exchange transactions with shares on the domestic market amounted to 9145 billion rubles which is almost the same as a year earlier (a drop of 0.3%), however, it is more than two times less comparing to 2011(19,609 billion rubles). (NAUFOR, 2017) Thus, investors were ‘happier’ about the stronger companies $q>1/k$ which were mostly represented in the sample by companies of Basic Materials sector, Energy and Telecommunication services (Appendix1) which already had a reserve, which could prevent or help them with possible future turbulences.



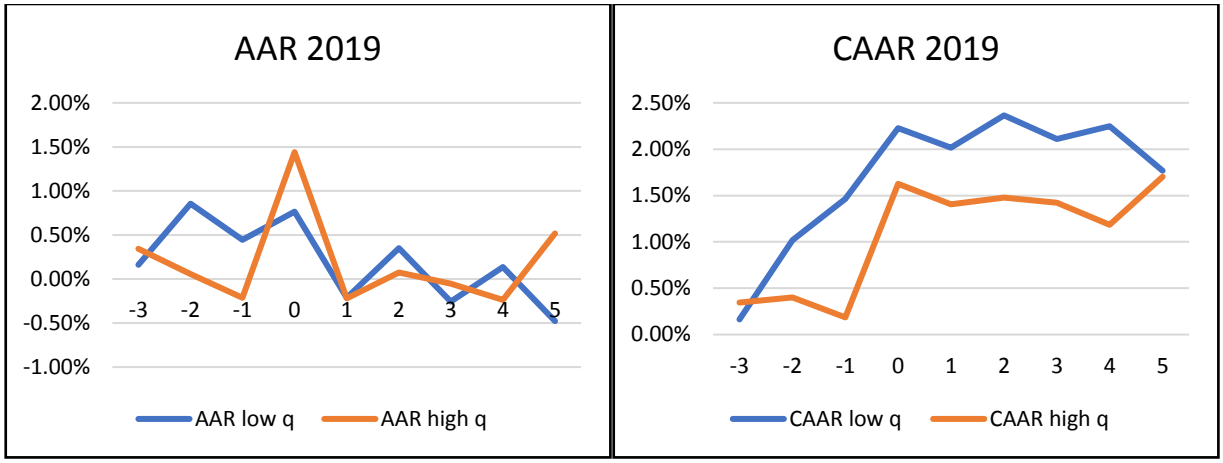
Graphs 9 and 10. AAR and CAAR 2017 for both group of companies



Graphs 10 and 11. AAR and CAAR 2018 for both group of companies

For 2018 fluctuations of AARs and CAARs for low q group were statistically insignificant, except AAR at t=0 it was equal -0.49% and CAAR at t=-1 it was equal +0.96% at 10% level. For high q group the t=0 and t=2 was found to be significantly different from zero in terms of AARs (+0.49% and -0.44%) at 5% level, and CAARs at the t=0 and t=1 (+0.73% and 0.97%) at 5% level. The behavior of prices is inconsistent, and conclusions are difficult to be formulated besides the fact of some reaction emergence from the market at the event date. The further research can look in detail for such behavior. However, in terms and frames of this paper we conclude that in 2018 the Russian stock market did perform reaction at the moment of event, which was significantly different from zero, for group low q it was negative reaction, for high q group it was positive reaction. Considering the fact that majority of dividend announcements in 2018 were made in May, just one

month later of significant drop of the Russian stock market, caused by introduced US sanctions, we can interpret results as following: investors expected dividends from both groups as the uncertainty about the future earnings increased rapidly. (QBFIN, Lapshina Ksenia, 2018) Due to the fact, that only export-oriented companies were able to grow on the weakening ruble, investors preferences switched to these companies, as their perspectives looked clearer, those companies include Basic Materials sector and Energy sector. If we check Appendix 1, we find that most of Basic Materials companies and several Energy sector companies are located at the high q group, thus the positive reaction of the market appeared for high q group of companies.



Graphs 12 and 13. AAR and CAAR 2019 for both group of companies

For 2019 (Graphs 12,13) there was again reaction before the event emergence for both groups, however, significant it was for low q group at t=-2 +0.85% AAR at 5% level and for high q group at t=-3 +0.34%AAR for t=-3 at 10% level (Appendix 4). Both groups also demonstrated significant reaction at the event date q<1/k AAR was +0.76% and q>1/k AAR was +1.44% significant at 5% level. Among other years 2019 demonstrated the most conventionally understandable reaction, some expectations or inside information influenced pre-event days, however, the strongest reaction appeared at the event day and then market stabilized. As we can see on the graph of CAARs 2019 q<1/k demonstrated higher results, which happened due to positive AARs prior event day, but we still are able to conclude that market reacted stronger to q<1/k announcement stronger (CAAR t=0 +2.23%), than to q>1/k (CAAR t=0 +1.63%), however, at the spot the second demonstrated higher AAR. Speaking about CAARs, for q<1/k CAARs were statistically significant at 5% for the whole event window except t=-3, and for t=5 CAAR was significant at 10% level, thus, we can rely on the results. For q>1/k group CAARs are statistically

significant from the event day till the end of the event window at 5% level. The general conclusion for 2019, when the Russian stock market achieved historically highest returns, is following: for companies associated with greater risk ($q<1/k$) performed greater reaction to dividend announcement than less volatile companies ($q>1/k$), which are expected to preserve cash for further development, however, $q>1/k$ also met positive reaction to the announcement. The tables with numbers of yearly AARs and CAARs and their t-statistics are presented in Appendix 4.

Summary of results and limitations

Summarizing all results, we can make final conclusions. On the observed period 2017-2019 the selected sample divided into two group according to factual existence or absence of the financial reserve met positive reaction to the dividend announcement at the day of announcement and after in cumulative abnormal returns, however companies with the financial reserve met stronger reaction. Thus, the hypothesis 1 was not proved in this study. Hypothesis 2 also was not proven on the whole period: as for the group with $q<1/k$, expected to meet positive reaction on dividends, as the financial slack is not advisable, dividend announcements were found to be insignificant, while group $q>1/k$ met strong positive reaction. Such results could be explained by heterogeneity of the Russian stock market situations: after plain 2017 the US imposed sanctions in 2018 described earlier, the oil prices grown, the ruble weakened, in 2019 historically fastest growth and the highest returns comparing to other markets of the world. Such heterogeneity could disturb the results; thus, situation was analyzed yearly. At 2017 and 2018 the market reacted positively to dividend announcements by less risky firms ($q>1/k$) with clearer prospects, which included mostly Basic Materials and Energy sectors' firms, which dividends are perceived as stable earnings during turbulent times (Rogova, 2014). However, for year 2019, when the better times have come, we could observe attitude that corresponds the theoretical model by Berezinets et al (2022), and the market reacted stronger to announcements by companies with low q and more modest for firms with high q, which are expected to preserve profits for further development. Thus, the most serious thing to be considered for analysis of results for the dividend announcements is understanding of the external situation on and off the studied market along the studied period and distribution of the companies in the sample at least among industries.

The limitations of this study include limitations of the models its rely on. First, the model developed by Berezinets Nikulin, Okulov (2022) for assessing the feasibility of forming a financial slack have limitations about sources of capital for the firm (no borrowings) and investment motive

is the only one considered for a financial slack creation and keeping. Empirical studies cannot include and evaluate each possibly influencing factor, thus, such limitations appear. The opportunity of the companies to take a loan for any purposes or to spend cash funds for unexpected expenses are difficult for assessment and also create significant difficulties for evaluation of proposed model, thus eliminated. Also, important limitation of this study is period of time selected and regional features; the Russian stock market is developing and growing sometimes even faster than other markets; however, the country and its economy has a great exposure to various risks and is very dependent from oil prices and dollar exchange rates. Each year is unique in terms of risks (the US sanctions) or rapid growth (2019 two times growth of individual investment accounts). (QBFIN, Lapshina Ksenia, 2018) (INTERFAX, 2019) The exposure to several severe risks continues to be a very serious issue, because the economy already met unprecedented fall due to pandemic, the risk of default or geopolitical risks, which are currently all on the stage. This makes study result applicable for at least relatively the same external and internal situation on the market, which will be characterized with medium exposure to risk and some positive expectations about the future growth. We can expect that shareholders' behavior pattern is stable in same conditions even in different years, thus, results can be used for similar periods. Among general limitations the number and variety of observed sample have to be mentioned as well. Specifics of Russian stock market are not applicable to any other markets; thus conclusions cannot be generalized for other markets, at least until the precise comparison.

Implications

The received conclusions have practical use for companies in formation of dividend policy; as reevaluation of company's position on the market, its strategy and plans can be interrelated and reflected into dividend policy in accordance with findings. The understanding of company's position allows it to forecast outcomes of certain decisions and announcement related to not only dividends but investment projects, as well.

The results can be used by investors for portfolio construction purposes, as they can assess the possible outcomes (abnormal returns) of the announcement in accordance with study methodology, considering the industry, the market environment and company's position there.

Speaking about theoretical contribution, this study adds to the research field of event analysis considering effect of dividends announcements to the Russian stock market along with new factor – a financial slack. Moreover, this study demonstrated inconsistency of the market during 2017-2019 with the new model for assessing the feasibility of forming a financial slack by Berezinets Nikulin, Okulov (2022). As we found difference of reactions of two groups but not in the way it was proposed my authors of model; companies ($q>1/k$) expected to allocate cash into a financial slack met stronger positive reaction towards dividend announcements comparing to companies which $q<1/k$. However, in 2019 separately we found different results. This can be explained by limitations of this study in terms of chosen period. After great fluctuations in 2018, when the US introduces sanctions against Russian billionaires, politicians, 2019 was the first year with great growth. (QBFIN, Lapshina Ksenia, 2018) Thus, if we assume that Russian Federation could preserve that level of exposure to the risks, growth and development, we could use the results of this year separately for our forecasts of market reactions to events, as they approved theoretical model and the pattern of the behavior close to the efficient market.

For further research, narrowed groups can be analyzed on the different size periods, proposed by Berezinets Nikulin, Okulov (2022) model can be tested on other markets, which are developed and have higher number of diversified companied.

Conclusion

This article studied preferences of shareholders between dividends and a financial slack (which implies future gains after its investment and potential future growth) of the public companies via evaluating their reaction to dividend announcements. Event analysis method was used for studying the sample of Moscow Stock Exchange companies, traded at 2017-2019 period and paid dividends. Totally 241 dividend announcements were analyzed. The analysis of reaction to the dividend announcements by companies with existing financial reserve demonstrated stronger positive market reaction comparing to companies without the financial reserve, which means that hypothesis 1 was not proved on this sample and period. In process of answering the second research question about how different reaction of the market to the companies' announcement of dividends considering expected presence or expected absence of a financial slack by companies. The hypotheses about market attitude were formulated on the basis of existing articles, however, empirically were rejected. The companies, which are not expected to have a financial slack, met less reaction of the market to the dividends, while the companies expected to preserve a financial slack met strong positive reaction, despite the proposition of low value of dividends for shareholders. Signaling theory proposes that high dividend is a good sign of future higher returns, however, in case of second group of companies we expected and met a poor reaction to dividends. The performed results could be explained by the environment on the market, at 2018 the Russian Stock market met so called "black Monday", when the stock index dropped significantly due to introduced sanctions against Russian billionaires and politicians. Thus, we can expect that dividends was more important than future earnings as Russian investors are likely to have negative expectations according to various periods studies. (Teplova, 2008, Rogova, 2014) However, for the year 2019, when situation stabilized and the Russian stock market reached the historically highest spot and provide investors with the highest returns than any other market, the situation with reaction to dividend announcement changed. It became consistent with proposed model by Berezinets et al (2022), which can be explained by more positive attitude to the market's future. The riskier companies started to meet stronger positive reaction to dividends' announcements, while companies with $q>1/k$ in cumulative average abnormal returns performed slightly weaker reaction, which meant that investors became more tolerant towards company's attitude to preserve money for future investments. Nevertheless, the limitations of the findings have to be considered when applying results into practice.

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Appendix 1

Ticker	Company	Sector	q2017	q2018	q2019
AKRN	Akron PAO	Basic Materials	1.6135	1.5529	1.5510
ALRS	AK Alrosa PAO	Basic Materials	1.5310	1.4363	1.6080
CHMF	Severstal' PAO	Basic Materials	2.1252	1.9374	1.8463
GMKN	GMK Noril'skiy Nikel' PAO	Basic Materials	3.8967	3.8478	3.5462
KAZT	KuybyshevAzot PAO	Basic Materials	1.1251	1.0338	1.0285
KZOS	Organicheskiy Sintez KPAO	Basic Materials	3.4339	3.1777	2.8129
LNZL	Lenozoloto PAO	Basic Materials	1.2332	1.1451	1.0481
MAGN	Magnitogorskiy Metallurgicheskiy Kombinat PAO	Basic Materials	1.0443	1.0003	1.0517
NKNC	Nizhnekamskneftekhim PAO	Basic Materials	1.3508	1.3805	1.99
NLMK	Novolipetsk Steel PAO	Basic Materials	1.4710	1.3695	1.4325
PHOR	PhosAgro PAO	Basic Materials	1.6311	1.5239	1.4242
PLZL	Polyus PAO	Basic Materials	4.3484	3.9132	3.3934
SELG	Seligdar PAO	Basic Materials	0.9840	0.7142	0.7276
TRMK	Trubnaya Metallurgicheskaya Kompaniya PAO	Basic Materials	0.8135	0.8041	0.7663
VSMO	Korporatsiya VSMPO-AVISMA PAO	Basic Materials	1.4361	1.3048	1.2147
PIKK	Gruppa Kompaniy PIK PAO	Consumer Cyclicals	0.9224	0.9301	1.0182
BANE	ANK Bashneft' PAO	Energy	0.6175	0.6291	0.5766
GAZP	Gazprom PAO	Energy	0.4518	0.4452	0.4207
LKOH	NK Lukoil PAO	Energy	0.9193	0.9096	0.8654
NVTK	Novatek PAO	Energy	3.1248	2.8070	-
RASP	Raspadskaya PAO	Energy	1.1267	0.9181	0.6465
ROSN	NK Rosneft' PAO	Energy	0.6544	0.6846	0.6344
SIBN	Gazprom Neft' PAO	Energy	0.8798	0.8008	0.7365
SNGS	Surgutneftegaz PAO	Energy	0.4979	0.5473	0.4461
TATN	Tatneft' PAO	Energy	1.6136	1.6051	1.4542
AFLT	Aeroflot-Rossiyskiye Avialinii PAO	Industrials	0.7371	0.7889	0.7243
KMAZ	Kamaz PAO	Industrials	0.8225	0.7092	0.7822
MSTT	Mostotrest PAO	Industrials	0.4412	0.4315	0.5685
NMTP	Novorossiyskiy Morskoy Torgovyi Port PAO	Industrials	2.0140	1.9108	1.8195
LVHK	Levenguk OAO	Technology	0.5479	0.5358	0.5381
AFKS	AFK Sistema PAO	Telecommunications Services	0.6209	0.6582	0.7974
CNTL	Tsentral'nyi Telegraf PAO	Telecommunications Services	1.5059	1.7262	2.1913
MGTS	Moskovskaya Gorodskaya Telefonnaya Set' PAO	Telecommunications Services	2.4583	2.7380	3.1947
MTSS	Mobil'nye Telesistemy PAO	Telecommunications Services	1.7133	1.8206	1.4322
RTKM	Rostelekom PAO	Telecommunications Services	0.8794	0.8121	0.7732
TTLK	Tattelekom PAO	Telecommunications Services	0.7528	0.7494	0.7546
ASSB	Astrakhanskaya Energosbytovaya Kompaniya PAO	Utilities	0.7705	0.4927	0.3054
ENRU	Enel Rossiya PAO	Utilities	0.8005	0.7411	0.7472
FEES	FSK YeES PAO	Utilities	0.4960	0.4671	0.4219
HYDR	Federal Hydro-Generating Company RusHydro PAO	Utilities	0.5106	0.5598	0.5783
KRSB	Krasnoyarskenergosbyt PAO	Utilities	0.9399	0.9919	1.0226

LSNG	Lenenergo PAO	Utilities	0.4392	0.4561	0.5056
MRKC	MRSK Tsentra PAO	Utilities	0.5157	0.5117	0.4801
MRKP	MRSK Tsentra i Privolzh'ya PAO	Utilities	0.5859	0.5233	0.4680
MRKS	MRSK Sibiri PAO	Utilities	0.7711	0.8264	0.8134
MRKU	Mezhregional'naya Raspredelitel'naya Setevaya Kompaniya Urala OAO	Utilities	0.3465	0.3376	0.3609
MRKV	MRSK Volgi PAO	Utilities	0.4608	0.3899	0.3495
MRKY	MRSK Yuga PAO	Utilities	0.9249	0.9274	0.9666
MRKZ	MRSK Severo-Zapada PAO	Utilities	0.3757	0.4038	0.4060
MSNG	Mosenergo PAO	Utilities	0.4067	0.3508	0.3065
MSRS	MOESK PAO	Utilities	0.4070	0.4283	0.4328
OGKB	OGK-2 PAO	Utilities	0.6429	0.6241	0.5760
RSTI	Rossiyskiye Seti PAO	Utilities	0.3829	0.3682	0.3495
TGKA	TGK-1 PAO	Utilities	0.5301	0.5224	0.4733
UPRO	Yunipro PAO	Utilities	1.6953	1.4903	1.4460

companies	2017	2018	2019
low q	24	25	27
high q	27	26	26
proportion	8/9	1	1

announcements	2017	2018	2019
low q	27	26	36
high q	47	52	53
proportion	4/7	1/2	2/3

Appendix 2

Ticker	Company	Sector	Slack 2017	Slack 2018	Slack 2019
AKRN	Akron PAO	Basic Materials	1	1	1
ALRS	AK Alrosa PAO	Basic Materials	1	0	1
CHMF	Severstal' PAO	Basic Materials	1	0	1
GMKN	GMK Noril'skiy Nikel' PAO	Basic Materials	1	1	1
KAZT	KuybyshevAzot PAO	Basic Materials	0	1	1
KZOS	Organicheskiy Sintez KPAO	Basic Materials	1	1	1
LNZL	Lenozoloto PAO	Basic Materials	1	1	1
MAGN	Magnitogorskiy Metallurgicheskiy Kombinat PAO	Basic Materials	1	1	1
NKNC	Nizhnekamskneftekhim PAO	Basic Materials	1	1	1
NLMK	Novolipetsk Steel PAO	Basic Materials	1	1	1
PHOR	PhosAgro PAO	Basic Materials	0	0	0
PLZL	Polyus PAO	Basic Materials	1	1	1
SELG	Seligdar PAO	Basic Materials	0	0	0
TRMK	Trubnaya Metallurgicheskaya Kompaniya PAO	Basic Materials	1	1	1
VSMO	Korporatsiya VSMPO-AVISMA PAO	Basic Materials	1	1	1
PIKK	Gruppa Kompaniy PIK PAO	Consumer Cyclicals	1	1	1
BANE	ANK Bashneft' PAO	Energy	0	1	1
GAZP	Gazprom PAO	Energy	1	1	1
LKOH	NK Lukoil PAO	Energy	1	1	1
NVTK	Novatek PAO	Energy	1	1	0
RASP	Raspadskaya PAO	Energy	0	0	1
ROSN	NK Rosneft' PAO	Energy	1	1	1
SIBN	Gazprom Neft' PAO	Energy	1	1	1
SNGS	Surgutneftegaz PAO	Energy	1	1	1
TATN	Tatneft' PAO	Energy	1	1	1
AFLT	Aeroflot-Rossiyskiye Avialinii PAO	Industrials	0	0	0
KMAZ	Kamaz PAO	Industrials	1	1	1
MSTT	Mostotrest PAO	Industrials	1	1	1
NMTP	Novorossiyskiy Morskoy Torgovyi Port PAO	Industrials	1	0	1
LVHK	Levenguk OAO	Technology	0	0	0
AFKS	AFK Sistema PAO	Telecommunications Services	1	1	1
CNTL	Tsentral'nyi Telegraf PAO	Telecommunications Services	0	0	1
MGTS	Moskovskaya Gorodskaya Telefonnaya Set' PAO	Telecommunications Services	1	1	1
MTSS	Mobil'nye Telesistemy PAO	Telecommunications Services	0	1	1
RTKM	Rostelekom PAO	Telecommunications Services	0	0	0
TTLK	Tattelekom PAO	Telecommunications Services	0	0	0
ASSB	Astrakhanskaya Energosbytovaya Kompaniya PAO	Utilities	0	1	0
ENRU	Enel Rossiya PAO	Utilities	1	1	1
FEES	FSK YeES PAO	Utilities	0	0	0
HYDR	Federal Hydro-Generating Company RusHydro PAO	Utilities	1	1	1

KRSB	Krasnoyarskenergosbyt PAO	Utilities	1	0	0
LSNG	Lenenergo PAO	Utilities	0	0	0
MRKC	MRSK Tsentra PAO	Utilities	0	0	0
MRKP	MRSK Tsentra i Privolzh'ya PAO	Utilities	0	0	1
MRKS	MRSK Sibiri PAO	Utilities	0	0	0
MRKU	Mezhregional'naya Raspredelitel'naya Setevaya Kompaniya Urala OAO	Utilities	0	0	0
MRKV	MRSK Volgi PAO	Utilities	0	1	1
MRKY	MRSK Yuga PAO	Utilities	0	0	0
MRKZ	MRSK Severo-Zapada PAO	Utilities	0	0	0
MSNG	Mosenergo PAO	Utilities	1	1	1
MSRS	MOESK PAO	Utilities	0	0	0
OGKB	OGK-2 PAO	Utilities	0	0	1
RSTI	Rossiyskiye Seti PAO	Utilities	0	1	1
TGKA	TGK-1 PAO	Utilities	0	1	1
UPRO	Yunipro PAO	Utilities	0	1	1

companies	2017	2018	2019
no reserve	23	19	16
reserve	28	32	36
proportion	5/6	3/5	4/9

Appendix 3

AFKS	03.04.17	16.10.17	21.05.18	01.04.19								
AFLT	26.05.17	30.05.18	31.05.19									
AKRN	17.08.17	21.12.17	01.06.18	27.09.18	15.02.19	07.05.19	06.11.19					
ALRS	25.04.17	04.05.18	07.08.18	25.04.19	27.08.19							
ASSB	17.04.18	19.04.19										
BANE	27.10.17	23.05.18	07.05.19									
CHMF	01.02.17	19.04.17	20.07.17	17.10.17	02.02.18	17.04.18	18.07.18	18.10.18	04.02.19	18.04.19	18.07.19	17.10.19
CNTL	15.05.17	27.04.18	26.04.19									
ENRU	04.05.17	20.04.18	19.04.19									
FEES	30.05.17	25.05.18	24.05.19	27.11.19								
GAZP	13.04.17	16.05.18	11.04.19									
GMKN	28.04.17	25.08.17	25.05.18	14.08.18	26.04.19	20.08.19						
HYDR	24.05.17	28.05.18	29.05.19									
KAZT	02.05.17	25.07.17	31.10.17	23.03.18	06.11.18	26.03.19	05.08.19	14.11.19				
KMAZ	24.05.17	24.05.18										
KRSB	21.04.17	21.05.18	22.05.19									
KZOS	10.03.17	03.05.18	19.03.19									
LKOH	26.04.17	25.10.17	24.04.18	19.10.18	25.04.19	16.10.19						
LNZL	06.06.17	24.05.18	24.05.19									
LSNG	24.05.17	11.05.18	21.05.19									
LVHK	28.06.17	27.04.18	16.04.19									
MAGN	25.04.17	28.08.17	09.11.17	06.02.18	08.05.18	02.08.18	02.11.18	11.02.19	30.04.19	01.08.19	31.10.19	
MGTS	15.05.17	14.05.18	13.05.19									
MRKC	16.05.17	25.04.18	29.04.19	26.11.19								
MRKP	15.05.17	04.06.18	08.05.19	26.11.19								
MRKS	08.05.18	13.05.19	28.11.19									
MRKU	15.05.17	26.04.18	23.04.19	26.11.19								
MRKV	10.05.17	28.04.18	29.04.19	26.11.19								
MRKY	10.05.18	07.05.19										
MRKZ	23.05.17	08.05.19	28.11.19									
MSNG	05.05.17	04.05.18	07.05.19									
MSRS	18.05.17	28.04.18	13.05.19	26.11.19								
MSTT	03.05.17	03.11.17	29.05.18	06.11.19								
MTSS	12.04.17	31.07.17	11.04.18	30.07.18	11.04.19	30.07.19	25.11.19					
NKNC	11.03.19											
NLMK	06.03.17	28.04.17	28.07.17	27.10.17	07.03.18	27.04.18	31.07.18	25.10.18	04.03.19	23.04.19	26.07.19	24.10.19
NMTP	18.04.17	07.09.18	20.11.18	22.05.19								
NVTK	14.03.17	25.08.17	13.03.18	24.08.18								
OGKB	05.05.17	23.05.18	07.05.19									
PHOR	22.03.17	19.05.17	23.08.17	24.11.17	21.03.18	31.05.18	23.08.18	20.11.18	20.03.19	16.05.19	02.09.19	25.11.19
PIKK	20.07.18	16.04.19										
PLZL	07.06.17	14.08.17	27.04.18	24.08.18	01.04.19	22.08.19						
RASP	28.08.19											
ROSN	24.04.17	31.08.17	25.04.18	24.08.18	16.04.19	21.08.19						
RSTI	30.05.17	31.05.18	27.05.19									
RTKM	15.05.17	18.05.18	29.11.18	16.05.19								
SELG	12.11.19											
SIBN	21.04.17	09.11.17	23.04.18	13.11.18	22.04.19	02.10.19						
SNGS	15.05.17	18.05.18	17.05.19									
TATN	27.04.17	07.11.17	24.04.18	14.08.18	13.11.18	26.04.19	06.08.19	14.11.19				
TGKA	16.05.17	04.05.18	07.05.19									
TRMK	28.04.17	27.04.18	27.05.19									
TTLK	21.03.17	03.05.18	19.03.19									
UPRO	19.05.17	09.11.17	11.05.18	02.11.18	13.05.19	08.11.19						
VSMO	14.04.17	25.08.17	16.04.18	24.08.18	16.04.19	27.08.19						

Appendix 4

2017 Low q	*AAR*	*t-stat*	*CAAR*	*T-STAT*
-3	-0.02%	-0.04226	-0.02%	-0.04226
-2	0.02%	0.062903	0.01%	0.014595
-1	-0.01%	-0.03159	0.00%	-0.00632
0	-0.87%	-2.22138	-0.87%	-1.11617
1	-0.62%	-1.58013	-1.49%	-1.70499
2	0.22%	0.575643	-1.26%	-1.32143
3	-0.03%	-0.0766	-1.29%	-1.25236
4	-0.03%	-0.08111	-1.32%	-1.20015
5	0.56%	1.434498	-0.76%	-0.65334

2017 High q	*AAR*	*t-stat*	*CAAR*	*T-STAT*
-3	-0.13%	-0.56164	-0.13%	0.20554
-2	0.31%	1.367023	0.18%	-0.2084
-1	0.26%	1.134107	0.44%	-0.4098
0	1.24%	5.497451	1.68%	-1.3608
1	0.08%	0.341551	1.76%	-1.2730
2	-0.04%	-0.16583	1.72%	-1.1373
3	0.12%	0.545087	1.84%	-1.1284
4	-0.03%	-0.14798	1.81%	-1.0363
5	0.04%	0.182331	1.85%	-0.9993

2018 Low q	*AAR*	*t-stat*	*CAAR*	*T-STAT*
-3	0.29%	0.83124	0.29%	0.83124
-2	0.27%	0.780839	0.56%	1.139912
-1	0.41%	1.190705	0.97%	1.618188
0	-0.49%	-1.42539	0.48%	0.688696
1	-0.14%	-0.4024	0.34%	0.436029
2	-0.04%	-0.12604	0.29%	0.346581
3	0.08%	0.218219	0.37%	0.40335
4	-0.10%	-0.28754	0.27%	0.275638
5	-0.34%	-0.99492	-0.07%	-0.07177

2018 High q	AAR	t-stat	CAAR	T-STAT
-3	0.08%	0.439108	0.08%	0.439108
-2	-0.01%	-0.07216	0.07%	0.259472
-1	0.17%	0.916385	0.24%	0.740934
0	0.49%	2.659658	0.73%	1.971496
1	0.23%	1.248213	0.97%	2.321578
2	-0.44%	-2.35471	0.53%	1.157994
3	-0.20%	-1.059	0.33%	0.671829
4	0.23%	1.215099	0.56%	1.058041
5	0.00%	-0.01739	0.55%	0.991733

2019 Low q	AAR	t-stat	CAAR	T-STAT
-3	0.16%	0.469484	0.16%	0.469484
-2	0.85%	2.46202	1.02%	2.072886
-1	0.45%	1.2829	1.46%	2.433187
0	0.76%	2.198142	2.23%	3.206273
1	-0.21%	-0.60996	2.01%	2.594995
2	0.35%	1.008099	2.36%	2.78045
3	-0.26%	-0.73798	2.11%	2.295265
4	0.14%	0.396217	2.25%	2.287108
5	-0.48%	-1.37695	1.77%	1.697321

2019 High q	AAR	t-stat	CAAR	T-STAT
-3	0.34%	1.655143	0.34%	1.655143
-2	0.05%	0.261873	0.40%	1.355535
-1	-0.21%	-1.02628	0.19%	0.514264
0	1.44%	6.919499	1.63%	3.905115
1	-0.22%	-1.06469	1.40%	3.016697
2	0.07%	0.349424	1.48%	2.896507
3	-0.05%	-0.25777	1.42%	2.584215
4	-0.24%	-1.13961	1.19%	2.0144
5	0.52%	2.482866	1.70%	2.726817