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Master in Corporate Finance

STOCK MARKET REACTION TO SHARE REPURCHASES ANNOUNCEMENTS: EVIDENCE FROM RUSSIA

Master's Thesis by the 2nd year student
Concentration — Corporate Finance
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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

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АННОТАЦИЯ

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Описание цели, задач и основных результатов	Данное исследование направлено на выявление средней реакции российского фондового рынка на объявления о выкупах акций. С точки зрения теории, такие объявления вызывают избыточные доходности акций как в краткосрочной, так и в долгосрочной перспективе. Исследование проводилось с помощью методологии анализа событий на 52 объявлениях о выкупах акций российскими компаниями с 2003 по 2015 год. Результаты свидетельствуют о том, что в среднем российский рынок положительно реагирует на объявления об обратном выкупе акций, что совпадает с теорией и международными эмпирическими данными. Результаты обсуждаются с точки зрения их сходств и различий с противоположными выводами других российских исследователей реакции фондового рынка на объявления о дивидендах. Теоретически, и выкупы акций, и повышения дивидендов должны вызвать избыточные доходности. Но некоторые авторы показали, что российский рынок негативно реагирует на увеличение дивидендов, что не согласуется с сигнальной теорией. Результаты исследования имеют практическое значение для менеджеров, принимающих решения о форме выплат, мажоритарных акционеров, стремящихся решить агентскую проблему и спекулятивных инвесторов, пытающихся найти выгодные инвестиционные возможности.
Ключевые слова	выкуп акций, реакция рынка акций, сигнальная теория, российский фондовый рынок, метод анализа событий

ABSTRACT

Master Student's Name	Daniil S. Romanov
Master Thesis Title	Stock market reaction to share repurchases announcements: evidence from Russia
Faculty	Graduate School of Management
Main field of study	38.04.02 «Management»
Year	2016
Academic Advisor's Name	Yulia B. Ilina
Description of the goal, tasks and main results	The aim of this research is to empirically investigate average reaction of Russian stock market to share repurchases announcements. Theoretically, such announcements trigger excess stock returns in both short and long-terms. The research was conducted with an event study methodology on a hand-collected dataset of 52 announcements from 2003 to 2015. Results provide evidence that on average Russian market reacts positively to repurchase announcements in line with signaling theory and international empirical evidence. The main discussion is around a reconciliation of these results with opposite findings of Russian researchers on stock market reaction to dividend announcements. Theoretically both repurchases and dividends increases should trigger excess returns. But several authors showed that Russian market reacts negatively to dividend increases' which is not consistent with signaling theory. The results of the research are of practical importance to managers deciding on the form of payout, majority shareholders struggling with agency conflicts and speculative investors trying to find profitable investment opportunities.
Keywords	share repurchase, buyback, stock market reaction, signaling, Russian stock market, event study, abnormal return

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Introduction

Payout policy is now active area of research. It is one of the most important issues in corporate finance as it is at the intersection of managers' and shareholders' interests over earnings distribution. Amounts paid and tools which are used to do it affect firm's market value, taxes which investors pay, investors' perception of companies' performance and prospects. From manager's point of view payout decision is also at the epicenter of financial and investment decisions as it involves huge sums of money and decisions are strategically important for companies' performance and capitalization. Therefore, the research and management challenge is to develop a payout policy models which helps to maximize shareholders' wealth.

Share repurchases in developed markets are gradually replacing cash dividends as a tool of payout policy which make repurchases a relevant venue for research. Stock repurchases are usually analyzed with a payout policy framework but in reality, they represent the interplay of all financial issues in the corporation. First, it is an investment decision in itself as company invest money to buy back its' own shares. Secondly, it is a payout decision, as an alternative method to dividends. Thirdly, it is a capital structure decision as share repurchases increase company's financial leverage. Fourth, it is a decision on the company's ownership structure as some shareholders will sell their share while some will not.

Repurchases are usually analyzed from two complementary perspectives: factors influencing decision to repurchase stocks and stock market reaction to repurchases announcements. This research is devoted to a latter one, namely, this paper is an investigation of stock market reaction to share repurchases announcements used as payout policy tools by Russian public companies. In developed markets companies widely use share repurchases in their payout policies. But in emerging markets repurchases are still not as widespread as in developed markets. This is the reason to focus on emerging markets. To make more profound research I focused on Russian market only and tried to cover as much events as possible.

The goal of the paper is to empirically investigate an average reaction of Russian stock market to share repurchase announcements in both short-term and long-term periods of time. Following research questions in line with the research goal were addressed:

1. How does Russian stock market reacts to share repurchases announcements in short-term and long-term and what are explanations for such reactions?
2. How evidence on share repurchases announcements could influence corporate managers' and investors' predictions and decisions on share prices behavior.

To answer these questions and reach research goal following objectives were set:

1. To systematize and analyze theoretical concepts shaping payout policies and trends in payout policies in both developed and emerging markets;
2. To analyze theoretical background of share repurchases and analyze existing evidence of share repurchases influence on stock prices;
3. To analyze Russia-specific market context in which companies operate and conduct both short-term and long-term event study research;
4. To provide plausible explanations for obtained results and demonstrate to corporate managers and investors how repurchase announcements and corresponding market reaction can influence their decisions.

To answer research questions of the paper event study methodology was applied to a hand-collected dataset of share repurchases announcements by Russian companies from 2003 to 2015. Results of empirical analysis showed that there is significantly positive short-term excess returns attributed to share repurchase announcements. As for long-term return, there is no positive excess return but evidence is not statistically significant so no solid conclusion can be derived. These results practically mean that investors and managers should take repurchase announcements into account while deriving investment strategies or payout policies.

The following strong points of research support its' relevance:

1. Novelty. To my knowledge there is no profound quantitative research of share repurchases by Russian companies. So this paper can close this gap;
2. Hand-collected dataset. In the research a dataset of 52 announcements was collected and analyzed which is much less than datasets in developed markets but still allow some level of results' generalization;
3. Practical implications to managers of Russian companies executing payout policies and investors in the Russian market.

The paper is structured in the following manner. In Chapter 1 literature review on the problem is presented starting with payout policy theories and trends, followed by analysis of repurchases as a mechanism of payout policy and a signal to investors, and finished by an overview of Russian stock market and companies' payout policies as a bridge between theory and analyzed market. In Chapter 2 methodology and data for empirical research is presented, followed by results of event studies, their discussion and managerial implications. As a result, in line with evidence from other markets, Russian market reacts positively to share repurchases announcements in a short term period. But unexpectedly no statistically significant long term excess performance of companies that announced repurchases was found.

Chapter 1. Research problem statement and literature review

The effect of dividends and share repurchases announcements on stock returns is now actively researched. That is because main management goal is to create value for shareholders and stock returns is the key indicator of such value creation. To maximize shareholder wealth managers should make non-trivial choices between reinvestment and payout decisions, dividends and share repurchases as vehicles of earnings distribution. But still there is no one view on how payout policy influences shareholders' wealth. So more research is needed to investigate this issue. Particularly, there is not enough evidence from emerging markets, especially from Russian one, which is going through quick development for the last decades.

The Chapter 1 is organized as follows. In the first paragraph classical theories concerning payout policies are reviewed. In the second paragraph I show an increasing trend of share repurchases playing more important role as a payout policy mechanism. In a third paragraph there is a comprehensive analysis of share repurchases as a tool of payout policy including motives for use, factors, ways of realization, etc. Fourth paragraph introduce a topic of stock price reaction to share repurchases announcements. Finally, as a bridge between theoretical and empirical parts there is an overview of Russian stock market and repurchases research in Russia.

One final terminological issue to be addressed. Payout policy is a more general term than dividend policy. But for most of corporate history dividends were much more widespread so researchers talked about dividend policy. In this paper if a term "dividend policy" is used it usually also refers to share repurchases – a second mechanism of payout policy.

1.1. Payout policy: theoretical background and empirical evidence

The first paragraph provides a theoretical background of payout policy. And as payout policy research is usually performed leaning on practical realization of such policies, this paragraph includes not only purely theoretical developments but also empirical evidence.

Until 1961 the general economic view was that the more dividends company pays the more valuable it is. This notion was reflected in a widely spread discounted dividends approach to firm valuation (Gordon, 1959) which states that firm value is equal to the sum of all projected dividends discounted at the opportunity cost of capital. Gordon (1959) stated that higher retained earnings and investments would lead to increase in cost of capital because of increasing uncertainty about investments compared to safe dividend payments. This was a foundation of "Bird-in-hand" theory which states that investors prefer dividends now to possible future cash flows. Another supportive argument for this theory was made by Lintner (1956) who published

first profound research which eventually “set up a theoretical model of corporate dividend behavior”. The study was based on interviews with managers of 28 dividend-paying industrial companies. First of all, in his research Lintner showed that dividend decisions for managers are of higher importance than savings or taxes. Secondly, he stated that the real decision is whether any changes to dividend amount are needed rather than an amount to be paid itself. Thirdly, Lintner found that most companies had targeted payout ratio but it was adjustable to current profit level which is the most important factor in determining dividend amount. These patterns came into academic literature as a dividend smoothing though Lintner himself did not used the term. So managers tend to be conservative and inert in determining dividend payouts because they would not like to make substantial changes to the policy in the future as it can signal investors of companies’ uncertainty about the future. Subsequent studies with more powerful samples confirmed that Lintner's model performs well (Fama and Babiak (1968).

In 1961 Miller and Modigliani provided profound argumentation for the irrelevance of dividend policy to shareholders’ wealth. Authors claimed that there is no optimal dividend policy, firm should focus on its’ investment policy and distribute residual not-invested money as dividends. Theory is explicitly stating that for investors there are no preferences how to realize their returns - through regular dividends or through capital gains which should be higher because of more investments made instead of dividends. Miller and Modigliani based their study on several assumptions, violation of one or more of them could undermine their logic: no taxes, symmetric information, complete and enforceable contracts (no agency problem), no transaction costs, complete markets, rational investor behavior and perfect investor's’ certainty about future investment program and profits. Obviously, in the real world this assumptions do not hold so the most of academic research after the paper was concentrated on reconciliation of their findings with the reality showing that firms, investors and governments care about level of payout.

The researchers of payout policy after Miller and Modigliani (1961) were mainly searching for a solution of “dividend puzzle” (to pay out or not to pay out and how to pay out) across three main areas: tax models, agency models, signaling models. Moreover, there was a number of other less clustered explanations: transaction costs, clientele explanation, behavioral explanation, market irrationality explanation and other. Below I will go through main contributions to academic literature in areas mentioned above.

Tax models. Taxes affect everyone: companies, investors, governments, markets in general. With regards to payout policy theoretical notion is following – investors value after-tax CF. So if dividends' taxes are higher than capital gains dividends should be minimized in favor of investment decisions which will eventually lead to gains from increasing stock prices which can be realized by investors at most appropriate time for them.

Above conclusion is clear. But even if tax rates on dividends and capital gains were equal, dividends are still inferior to unrealized capital gains. This is because capital gains can be realized in a most suitable moment for an investor and related tax is postponed.

But not every investor (individual or institutional) is taxed in the same way. There are different tax brackets which will influence investors' preferences. From theoretical point of view the logic is following: high-tax-brackets investors should hold low-dividend stocks, low-tax-brackets – high-dividend stocks, while tax-free institutions are indifferent. Opposite to the theory empirical evidence by Lewellen, Stanley, Lease and Schlarbaum (1978) showed that high-tax-brackets investors still owned significant amounts of dividend-paying stocks. Such static models in which it is implied that there is only one decision to hold a stock or not depending on investors' tax brackets were explored by Litzenberger and Ramaswamy (1979,1980,1982), Miller and Scholes (1982) and others. They have not found consistent evidence on a relation between stocks' returns and dividend yields.

Later research tried to find evidence in dynamic models which allows investors to trade in order to optimize their tax payments. Particularly, Kalay (1982) showed that arbitrage opportunities exist in trading around an ex-dividend date. Rantapuska (2008) conducted a profound analysis of dynamic dividend clientele theory using data on the trading behavior of all investors in the Finnish stock market. He showed that investors who preferred income from capital gains to that from dividends sold stocks cum-dividend and bought shares ex-dividend, and vice versa. So taxes affect both prices and investors' trading decisions but market imperfections like transaction costs and time-discreteness do not allow investors to fully realize their strategies.

Switching from investors to managers' perspective which was analyzed by Brav, Graham, Harvey, and Michaely (2005) it could be inferred that dividend taxation is not a first-order concern for managers. Most CFOs said that tax considerations matter in their payout decisions, but are not a dominant factor.

All in all, empirical evidence confirms the theoretical proposition that from tax perspective dividends should be minimized. At the same time taxes alone cannot explain dividend puzzle.

Agency models reflect how different groups of stakeholders, namely, stockholders, management and bondholders are affected by payout policy.

Under complete contract management works to serve shareholders' interests. But in practice there are only incomplete and not fully enforceable contracts under which managers could work for their own benefits not for the shareholder's' ones. Examples are corporate jets, economically non-viable M&A, etc. This problem is referred as overinvestment.

From a payout policy perspective Easterbrook (1984) and Jensen (1986) proposed a simple solution to this. When contracts are not complete or fully enforceable equity holders can try to discipline managers – discipline them to pay out so that they do not overinvest or expropriate some wealth from bondholders. This conclusion is opposite to Miller and Modigliani (1961) in two aspects. First, there is a link between investment and payout policies and second, not only investment policy matters but payout policy as well.

Important notion with regards to the "tool for managers' discipline" was made by Jensen (1986). Debt commitment is the strongest one because denial will lead to a default. Dividends are also a strong mechanism to reduce overinvestment because managers are reluctant to decrease dividends. Share repurchases is the most flexible mechanism so it rarely can be applied to solve agency problems.

Shleifer and Vishny (1986) and Allen, Bernardo and Welch (2000) showed that if boards of directors are willing to impose disciplined free cash flow spending they can effectively attract corporations and institutional investors by sending a signal with dividends to this clientele.

Empirical evidence is consistent with theoretical notions mentioned above – paying dividends or repurchasing shares are made when firms have excess CF in order to reduce potential overinvestment. Lang and Litzenberger (1989) provided evidence for free-cash-flow hypothesis which states that an increase in dividends should influence prices more for firms which overinvest than for firms which do not. Grullon, Michaely and Swaminathan (2002) found that firms which anticipated a shrinking set of investment opportunities are prone to increase dividends. This is usually observed for companies in stable and mature companies and industries.

La Porta, Lopez-De Silanes, Shleifer and Vishny (2000) researched agency problem at a higher and broader level. They analyzed the relation between investors' level of protection and dividends policies across 33 countries. They found that effective legal system helps to reduce overinvestment pushing managers to pay out. Managers by themselves are not prone to pay out high dividends.

We can conclude that agency explanation of payout policy found most consistent evidence.

Behavioral explanations. Both managers and investors are exposed to behavioral biases so basically, they are not purely rational. Shefrin and Statman (1984) showed that investors prefer dividend-paying stocks because such stocks provide them with stable periodic cash flow which they can spend on current needs without selling shares and consume excessively today. Dividends here allow to avoid regret associated with overconsumption at expense of future gains. Also there is a bias called "mental accounting". If investor has 1$ in dividends and 9$ in capital gains versus 10$ in capital gains, for investor marginal utility of 1$ of dividends will be more than 10th dollar in capital gains.

Another behavioral theory is a *catering theory* of Baker and Wurgler (2004) states that over different periods of time investors are prone to pay premiums or discounts for dividend-paying stocks. So managers are generally reacting to investors' sentiments and pay more dividends when there is more demand on such stocks, and vice versa. Though Denis and Osobov (2008) and von Eije and Megginson (2008) have not found evidence for such an explanation in markets other than US.

Clientele explanations summarize evidence of payout policies reflecting shareholders preferences. It is quite obvious that in a presence of controlling shareholder, payout policy will be predetermined by her motives. Moreover, tax models can be viewed in line with clientele theory. Similarly to investor tax brackets, investors can form clienteles reflecting other factors which influence payout behavior:

Institutional constraints. Some institutions (pension funds and other) are allowed to invest only in dividend-paying firms so firm managers can use this information to make a firm more attractive to such category of investors. There is mixed empirical evidence on the issue of whether changes in dividend policies affect institutional ownership (DeAngelo, DeAngelo, and Skinner, 2008).

Transaction costs. If dividend payments minimize transaction costs to equity holders (either direct transaction costs or the time and effort spent), then positive dividend payout may be optimal (Allen, Michaely, 2003). However, there is no evidence supporting this explanation because first, transaction costs are decreasing over time and second, most of transactions are made by institutions, which exploit economy of scale.

Most up-to-date research explores other payout policy motives like improving market liquidity, equity mispricing, management compensation in forms of stock options and stock repurchase plans (Farre-Mensa, Michaely, Schmalz (2014)).

Signaling models of payout policy are resulted from attempts to relax symmetric information assumption of MM theory. I will discuss these models in more details as they serve as the main basis for this research.

So as managers know more about company's prospects they could use dividends to provide markets with previously unknown information or to change market perceptions of existing earnings information. As a result of signaling higher than expected dividends imply that earnings are higher than expected (or future earnings will be higher) which lead to increase in stock price and vice versa. Another signal is that management is confident that it will have enough cash to cover all commitments like interest expenses or CAPEX.

There are three most established signaling models. First classical model is Miller and Rock (1985) model which states firms pay out cash to signal firm's quality at the expense of making some investments. Here announced dividends serve as a clue to companies' earnings and prospects unobserved from the outside investors. Miller and Rock (1985) state that "outside investors realize they know less than the insiders and take into account the temptations managers face to exploit their superior information on behalf of the selling shareholders". Managers in this framework are acting to sustain consistent in time dividend and investment policies providing a signal of company's quality to the market. Generally, two other models provide the same evidence that dividends work as a signal to the market. Differences lie in design and a definition of signaling cost. In Miller and Rock (1985) it is investments, while in Bhattacharya (1979) model it is cost of outside financing and in John and Williams (1985) model it is taxes. Making a link from these models to share repurchases Miller and Rock (1985) and Bhattacharya (1979), as many other dividend signaling models, imply that dividends and share repurchases are perfect substitutes. At the same time John and Williams (1985) imply that there is no link and no choice between share repurchases and dividends. Such a notion follows from their conclusion that "firms do not repurchase shares to avoid taxes, because it is precisely the cost of the taxes that makes dividends desirable".

After these first signaling models a lot more models where payout events signal future earnings were created (see Allen, Michaely 2003: pp. 381-383). As the most important one I would distinguish Allen, Bernardo and Welch (2000). Authors showed that firms pay not only to signal undervaluation but also to attract better-informed and lower-taxed clientele (pension and mutual funds). Such institutional shareholders from companies' point of view are able to search for and invest in high-quality firms. This model predicts that high-quality firms will pay higher and more stable dividends to attract institutions as shareholders while low-quality firms do not want to reveal their low quality and will not pay or increase dividends. In contrast to previously

discussed models, Allen, Bernardo and Welch (2000) model is consistent with dividend smoothing as institutional investors cares about stable dividend track record. With respect to dividends and repurchases relations in the model, "they are not substitutes. In fact, firms with more asymmetric information and firms with more severe agency problems will use dividends rather than repurchases" (Allen and Michaely (2003)).

Empirical evidence does not support the proposition that dividend changes convey a signal about future earnings. For example, Benartzi et. al. (1997) conducted a profound research on dividend signaling which showed that firms which increased dividends had substantial earnings increase in that year or a year before, but no evidence of future years' growth. Miller (1987) summarized it this way: "...dividends are better described as lagging earnings than as leading earnings." But Benartzi et. al. (1997) found another important evidence for the fact that companies which increased dividends will less likely experience a decrease in future earnings compared to firms which have not increased dividends. This evidence is supported by other researchers and in term supports Lintner (1956) smoothing theory.

Another signal which might be incorporated in payout policy events is information about changes in company's risk characteristics. Here Grullon, Michaely and Swaminathan (2002) provide a maturity hypothesis: mature companies face less investment opportunities which leads (1) to a decrease of future returns and hence, a decline in risk and (2) to an increase in dividends. Here increase in dividends provides two good news for investors: risk decreased and managers will have less money to invest which reduce overinvestment problem. At the same time there is a bad consequence – profitability will decline as firm become more mature. Authors tested this hypothesis on a sample of 7642 dividend changes and found consistent evidence for that.

One more aspect of signaling models is timing the market. It is evident that payout events convey some information about the "real" firm value. But do managers want to give such a signal and is it a factor of dividend decision? Jiang and Koller (2011a) showed that S&P 500 companies from 2004 to 2011 paid out large cash amounts when stock prices were high and did not made repurchases when prices were low. Changes in payout policies are not motivated by managers' desire to show true market value, so there is low evidence for timing the market. To add managers' perspective it is worth to mention that two most influential surveys of managers on payout policy issues by Lintner (1956) and Brav et. al. (2005) found that signaling is not an important concern for managers.

As we saw, generally there is a positive reaction to dividend increases. But there is also one notion which should be considered - adverse selection. Company increasing dividends can be perceived as a company with no positive NPV projects. But Jiang and Koller (2011b) showed

that in most cases if company have moderate growth and high ROIC, it is impossible to reinvest everything because of lack of good (in terms of risk-return) investment opportunities in the market. In aggregate, US companies returned to shareholders about 60% of earnings over the last 50 years (1960-2010).

To summarize the research of payout policy and find perspective venue for my research two most profound literature surveys papers on payout policy were used (Allen, Michaely (2003) DeAngelo, DeAngelo, and Skinner (2008)). Also I analyzed latest developments in the field using working paper Farre-Mensa, Michaely, Schmalz (2014) which focuses on payout policy academic literature in the 21st century. Tax models alone do not describe factors influencing payout policy. There is more consistent empirical evidence found for agency models in explaining payout policy. Other factors are still under consideration. As for signaling models which are more concerned with how payout policies influence stock prices, there is consistent evidence that dividends increases and share repurchases announcements positively influence stock prices. But generally these models are not viewed as a reason influencing payout policy decisions. From this part of literature review it could be inferred that there are other venues for research, especially in a dividends/share repurchases mix in a payout policy.

1.2. Corporate payout policies: contemporary trends

In this section I will provide general trends for payout policy with a focus on the last 15 years as it is a time frame for my own research. Generally, there is huge accumulated evidence that share repurchases became more widespread and substituted dividends to some extent. But despite many advantages of repurchases compared to dividends there is no complete substitution of dividends with repurchases.

The classical paper which analyzed long-term trends in payout policies is called "Disappearing dividends…" by Fama, French (2001). The paper showed an evidence of share repurchases growing popularity in the end of the XX century and explained reasons of that. The paper's main goal is to understand the reason of a decline in dividend-paying firms: whether firm's internal features changed over time or it is a lower propensity to pay. That is important for determining trends in payout policy and factors which affect it. First of all, authors studied the behavior of dividend payers during the 1926-99 period with special interest in the period after 1972, when the data from electronic exchanges such as NYSE, AMEX, and NASDAQ became available. The percent of publicly-traded non-financial non-utility firms paying dividends declined sharply after 1978: from 66.5% to only 20.8% in 1999 which can be seen on the graph below. Another interesting observation of Fama and French (2001) is that more companies never

initiated dividend payments: number of such companies rose from 25% in 1978 to 65% in 1999 Basically such non-paying companies were more flexible in cash distribution as there were no expectations from investors about their dividends.

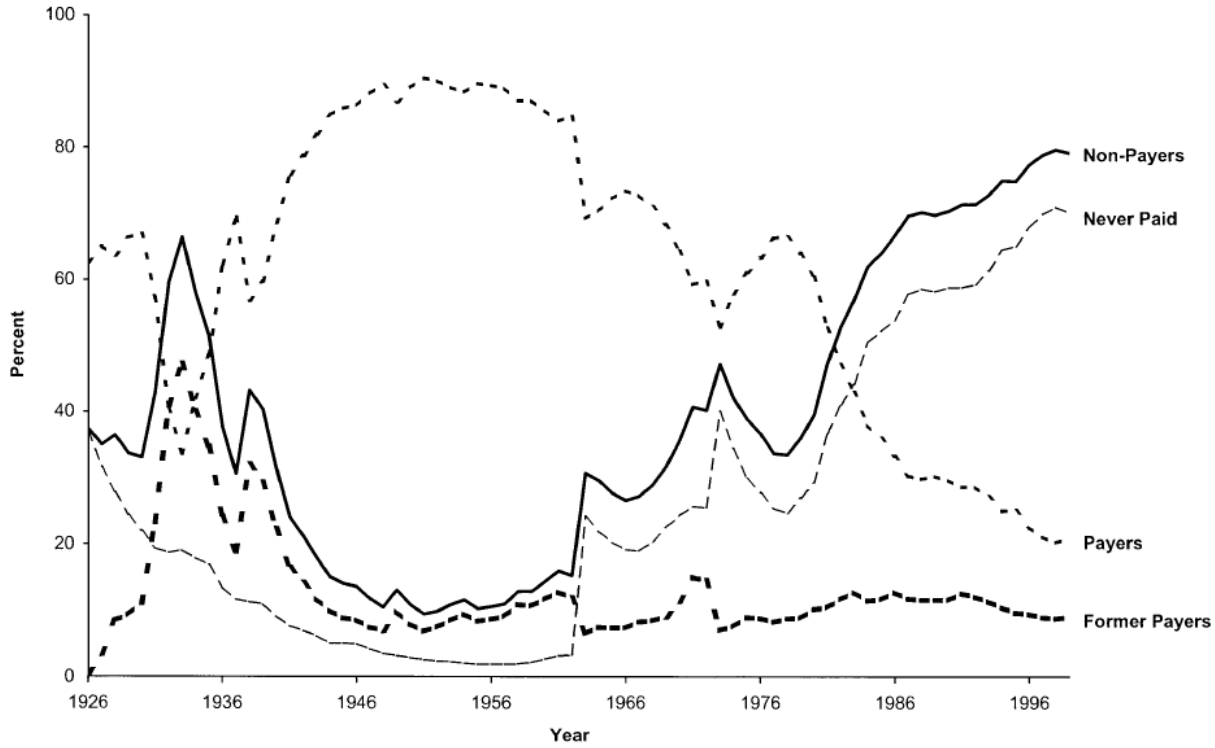

Figure 1 The percentage of firms in different dividend groups. Source: E.F. Fama, K.R. French Disappearing dividends: Changing firm characteristics or lower propensity to pay? Journal of Financial Economics, 60 (2001), p. 8

In the following parts of the paper authors presented their explanations of this evidence. After coming up with time trend in cash dividends they pointed out typical features of dividend-paying firm: larger firms and more profitable firms are more likely to pay dividends. Dividends are less likely for firms with more investments. Authors summarize statistics to provide details on the nature of dividend payers, former payers, and firms that have never paid. After that authors present qualitative characteristics of reduced propensity to pay. The decline after 1978 in the percent of firms paying dividends is due in part to an increasing tilt of publicly traded firms toward the characteristics of firms that have never paid - low earnings, strong investments, and small size. This tilt in the population of firms is driven by an explosion of newly listed firms, and by the changing nature of the new firms. But authors also showed that whatever the nature of the firm all firms including mature ones have become less likely to pay dividends. Authors also tried to test a hypothesis that a switch from cash dividends to share repurchases can be observed. But it was rejected because the primary effect of repurchases was to increase the already high earnings payouts of cash dividend payers not a tool of wealth distribution of non-payers.

But one year after that Grullon and Michaely (2002) provided their vision of a place of share repurchases in payout policies. Generally, they showed that there is a substitution hypothesis in place: firms finance share repurchases with funds which otherwise would have been distributed as dividends. Expenditures on share repurchase programs as a percentage of total earnings increased from 4.8% in 1980 to 41.8% in 2000 which can be seen on the graph below.

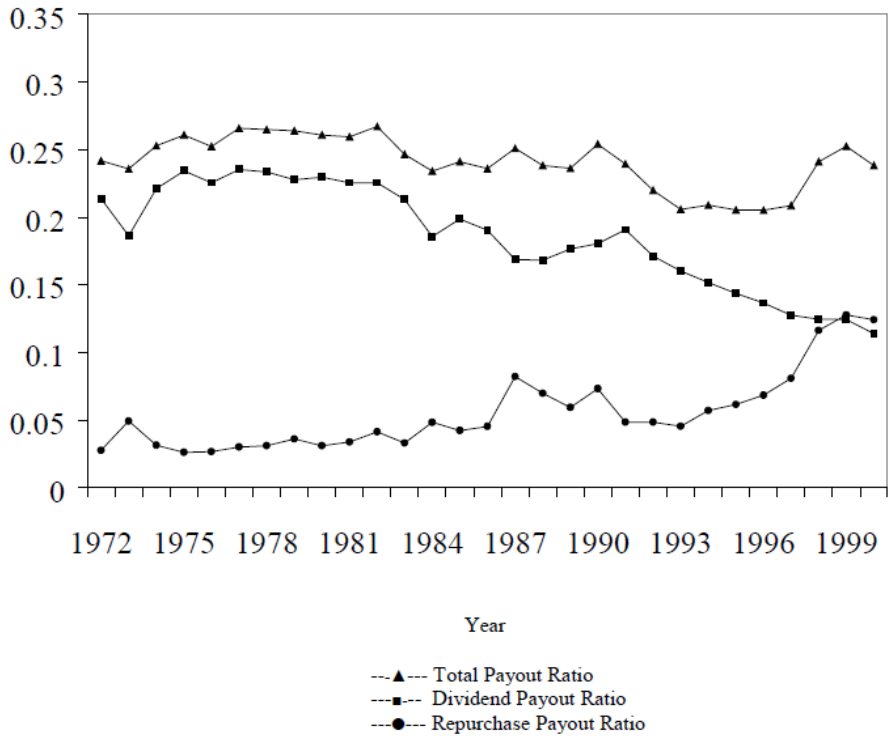

Figure 2 Cash distribution to equity holders. Source: Grullon, G, and R. Michaely (2002), "Dividends, share repurchases and the substitution hypothesis", The Journal of Finance 62 (4): 1649-1684.

At the very end of the century in 1999 and 2000 companies spent more money on share repurchases than on dividends. That was the first time in history; share repurchase programs have become more popular than dividends. Authors also found that young firms have a higher than before propensity to pay out through repurchases and that repurchases have become the preferred tool of payout policy. As for large established firms on average they did not cut dividends, but at the same time they also show a higher propensity to payout using repurchases. These findings showed that firms have gradually substituted repurchases for dividends. The reason for such an increase in repurchase activity is a regulatory change happened in 1983 when constraints were canceled.

Skinner (2008) basically extended time interval up to 2005 and showed pretty same results as previous authors. First, firms that only pay dividends are disappearing. Second, repurchases replace dividends. Dittmar and Dittmar (2004) in their working paper deepened knowledge of payout policy as they provided evidence that both dividends and repurchases are

vehicles to distribute permanent earnings so they are substitutes. At the same time only repurchases are used to distribute temporary cash flows. Moreover, they noted that a decrease in sensitivity of dividend change to change in permanent earnings is to big extent attributed to a boom of share repurchases. In other words, share repurchases decreased volatility of dividend payments. DeAngelo, DeAngelo, and Skinner (2004) also showed an interesting contradiction: while number of dividend payers declined, showed that there was a 22,7% increase in real dollar amount of dividends paid by industrial companies between 1978 and 2000. Answer is that group of non-payers increased because of a big number of small players who stopped paying, while large companies increased their dividend payouts.

Most previous researchers used samples up to 2000. What happened after that? Working paper by Farre-Mensa, Michaely, Schmalz (2014) is the most recent analysis of trends in payout policy. They showed some evidence for reappearing of dividends – at least, the decreasing trend of fraction of dividend-payers reversed and in 2012 fraction of dividend-payers reached 35%. This effect can be attributed to two facts. First, number of publicly traded firms declined substantially – from 5500 in 1997 to 2700 in 2012 and second, number of dividend payers increases from 767 in 2002 up to 949 in 2012. This trend can be observed on the graph below.

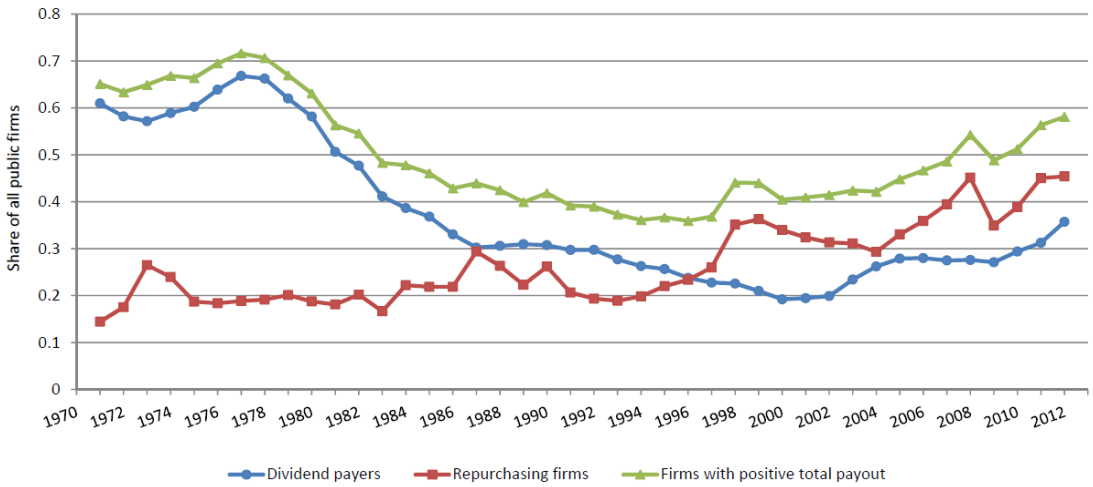

Figure 3 Fraction of dividend-paying firms, repurchasing firms, and firms with positive total payout in US. Source: Joan Farre-Mensa, Roni Michaely, Martin Schmalz. University of Michigan. Ross School of Business Working Paper. Working Paper No. 1227. February 2014

As for total amounts paid, they also increased confirming DeAngelo, DeAngelo, and Skinner (2004) findings. In 2012 overall payments were $258 bln. while in 1970s yearly payments were around $70 bln of real 2012 dollars. This can be seen on the graph below.

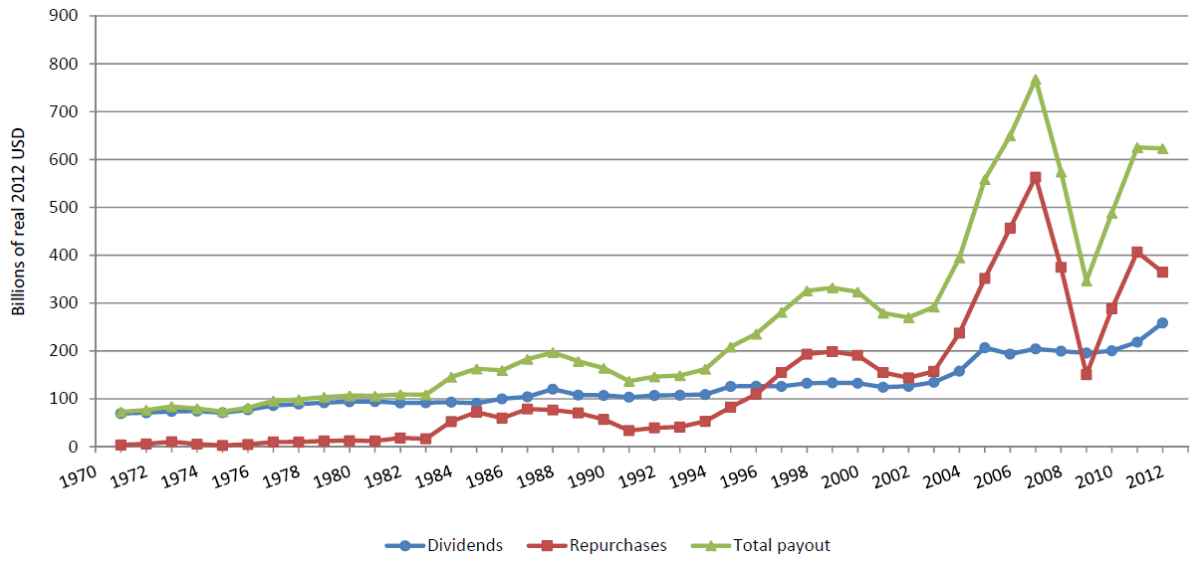

Figure 4 Aggregate dividends, share repurchases, and total payouts in US. Source: Joan Farre-Mensa, Roni Michaely, Martin Schmalz. University of Michigan. Ross School of Business Working Paper. Working Paper No. 1227. February 2014

Payout ratio split into dividend payout ratio and repurchase payout ratio also confirms the logic that dividends are reappearing: from 1970 to 2000 there was a downward trend of dividend payout ratio with a bottom of 7,2% in 2000 which is now reversed with the ratio reached 14,7% in 2012. This can be observed on a graph below.

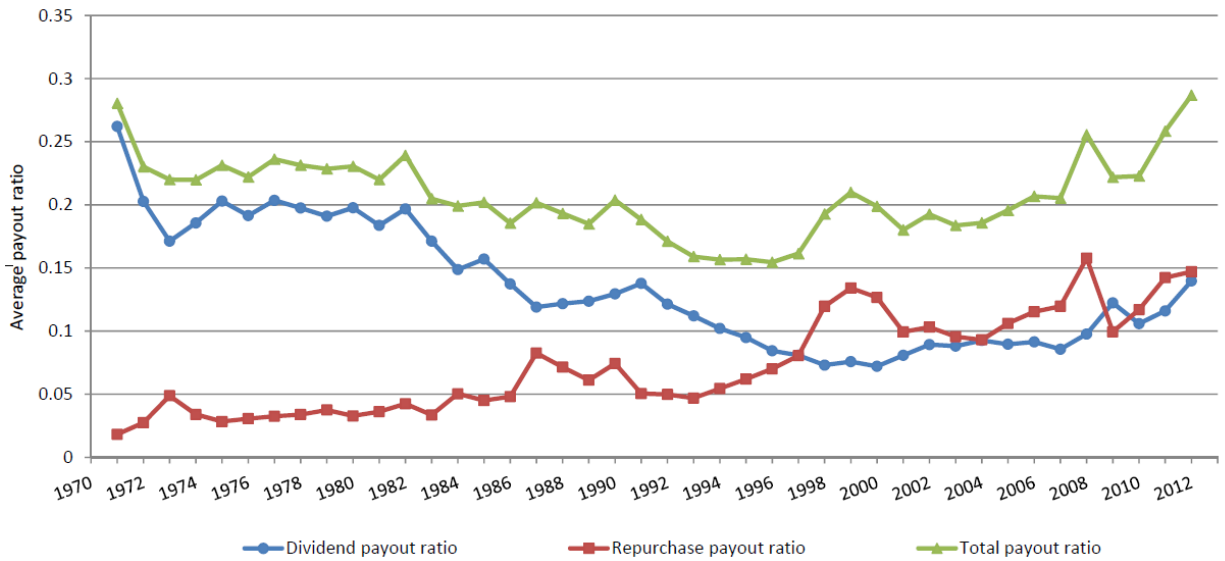

Figure 5 Average dividend payout ratio, repurchase payout ratio, and total payout ratio in US. Source: Joan Farre-Mensa, Roni Michaely, Martin Schmalz. University of Michigan. Ross School of Business Working Paper. Working Paper No. 1227. February 2014

From graphs and researches above another notion is evident – share repurchases are increasingly more popular and replace dividends to some extent. But researchers also show that these two tools are not perfect substitutes and degree of substitution is non-trivial. Explanation of Lee and Rui (2007) that dividends are used to distribute permanent earnings while repurchases are used for temporary one is logically appealing but still more evidence is required.

What is evidence for countries other than US? Von Eije and Megginson (2008) confirmed that trends from US are also applicable to Europe: from 1989 to 2005 fraction of dividend paying firms decreased while aggregate payouts increased. Denis and Osobov (2008) analyzed Canada, UK, Germany, France and Japan and found the same trends taking place

So all in all, there is a wave of reappearing dividends after their disappearing from 1970s to 2000. Share repurchases at the same time became more widely used tool of payout policy all over the world. So below I am going to proceed with analysis of this payout policy vehicle.

1.3. Share repurchases as a payout policy tool

As it was showed in a previous paragraph for the last 30 years share repurchases gained popularity all over the world. So in this paragraph share repurchase phenomenon is analyzed.

First of all, generally researchers apply payout policy framework to analyze share repurchases so they can be discussed with models presented in first paragraph. Theoretically, two facts allow to treat share repurchases as another payout policy mechanism along with cash dividends. Firstly, is that in both cases company pays out cash to shareholders and secondly, there is usually a positive market reaction to such announcements just like to dividends increases. So already discussed signaling models (Miller and Rock (1985), John and Williams (1985)) and other can also be applied to analyze repurchases.

Share repurchase is a transaction through which company acquires its' shares from shareholders. Acquired shares are either retired or counted as treasury shares. In both cases, these shares lose voting rights and rights to cash flows. There are several possible ways to buy back shares:

Fixed-price tender offer. In this type of transaction company offers to shareholders to sell specific (target) number of shares at pre-defined price through the period of offer. This offer with all information is communicated through investment banks. Sometimes this type of sales is made by issuing transferable put rights (TRP) to all investors. The advantage of this method is that investors who do not want to sell their share can sell put option itself. Atanasov, et al. (2004) showed that majority of puts are not exercised.

Dutch auction. Firm defines the number of shares and price range of the offer. Then interested shareholders propose company with their price and quantity proposals. Company aggregates this information, find the lowest price at which it can buy specified amount of shares and pay this price to shareholders proposed this or lower price. This type of share repurchase can be better for corporations than fixed-price tender offers because it is usually cheaper as investors compete for selling shares and it allows to buy shares from most pessimistic investors.

Open-market share repurchases is the most common way to exercise this transaction. Firm buys some shares in an open market through its' broker. This way is considered to be the cheapest one but sometimes it is a subject to regulation or even approval. One of important features of this vehicle is that there is no legal commitment to repurchase shares after announcement and indeed many firms do not proceed with it. For example, Stephens and Weisbach (1998) based on 450 open-market share repurchases announcements from 1981 to 1990 showed that about 80% of companies completed a repurchase in three years period.

Targeted (privately-negotiated) share repurchase is a deal when shares are bought from large investor. Peyer and Vermaelen (2005) showed that there are four types of such transactions. First is a greenmail - buying shares from potential raider, usually with premium to market price. Second case is when sellers are insiders or employees, especially after they have exercised executive stock options. Third situation is a repurchase when company sees its' shares undervalued. For fourth case Peyer and Vermaelen (2005) showed that 45% of all privately-negotiated repurchases between 1984 and 2001 were made with a discount. Motivation for this type of transaction is usually an urgent need for cash by large investors so their negotiation position is not strong.

Share repurchases using derivatives has a main advantage for company - it can take advantage of undervalued stock without spending cash. But Grullon and Ikenberry (2000) showed that there is a loss of flexibility associated with this transactions compared to open market repurchases. In addition to TRPs described under fixed-price tender offer there are two more ways to exercise share repurchase. First is buying forward contracts and second is buying collars (buy a call and sell a put). Under both these types there is no cash paid at the moment of transaction. If company were right about undervaluation of shares it will get money and if company was wrong it could issue more shares to settle the option.

Accelerated share repurchases (ASR). Bargeron, Kulchania, Thomas (2011) examined this type of repurchases in a profound manner. There are three periods over which the deal is exercised. At initial moment under ASR repurchasing company enters into a contract with an investment bank or other intermediary which immediately obtains shares by borrowing them usually from institutional investors. At the same time repurchasing company pays money for shares to the investment bank. At second point in time within several months bank buys stocks in the market and then close its' short position on stocks. In a third point in time a compensation provision between a bank and repurchasing firm is realized. The provision is to compensate for the difference between initial price per share paid to intermediary and estimated price per share which firm could have paid in an open-market repurchase. Dependent on what is higher bank or

repurchasing firm will make a payment to another party. This transaction generally reduces company's flexibility but company benefit from immediate exercise of a deal. This type of deal is effective to deal with undervaluation of shares.

Of all types of share repurchases open-market repurchases are the most widespread. Frequency of other types of repurchases is represented in the graph below. Bargeron, Kulchania, Thomas (2011) noted a substantial growth of accelerated share repurchases in the pre-crisis period.

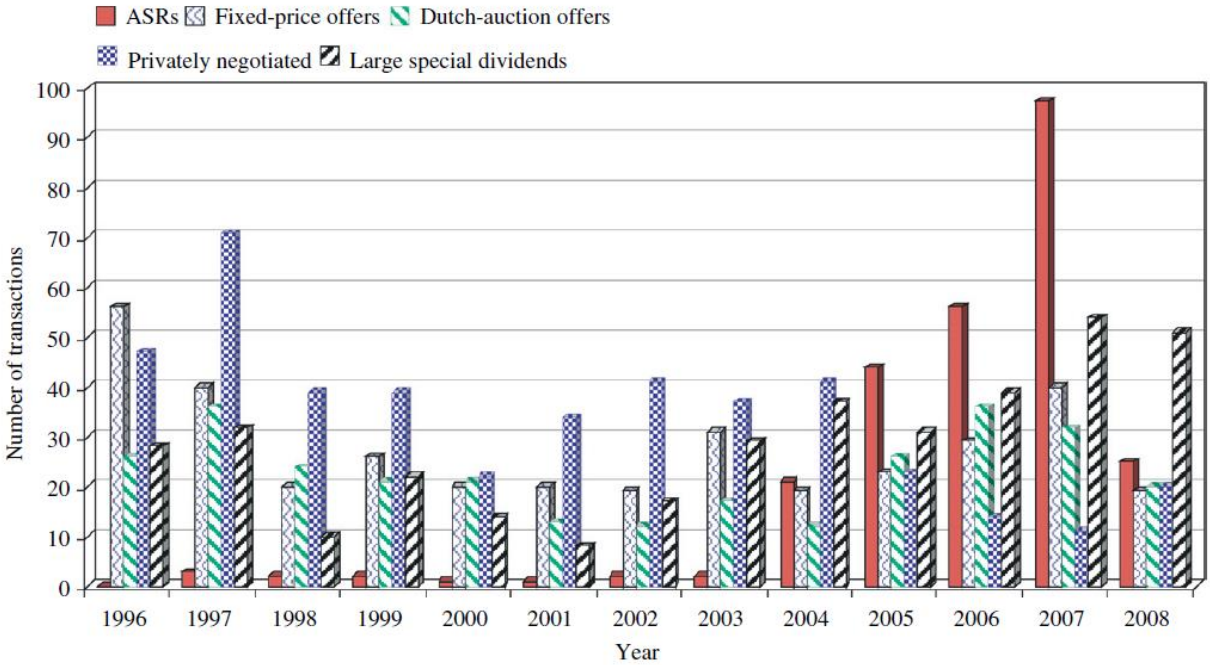

Figure 6 Frequency of different types of repurchases' announcements by year (excluding open-market share repurchases). From: Bargeron, Kulchania, Thomas (2011)

Ikenberry, Lakonishok and Vermaelen (1995), Grullon and Michaely (2002) showed that open-market share repurchases are used to obtain relatively small number of shares (on average 6% of outstanding shares) in a long time period - up to three years.

Vermaelen (1981), Comment and Jarrell (1991) and Bagwell (1992) showed that fixed-price tender offers and Dutch auctions are usually used to repurchase larger number of shares - on average 15% of outstanding shares in pretty short period (usually, one month).

Another important question is what can company do with the shares? When shares are acquired they are represented in the equity part of the balance sheet with a negative sign and named treasury shares. These shares do not have voting rights, are not subjects for dividends and are not counted in calculation of outstanding shares. Generally, there are four possible ways to deal with such shares: retire, sell, exchange or use in management and employee stock options plans. Dependent on the country, there are different regulations with regards to a period of time and conditions which are applied for treasury shares.

So as we now understand the mechanics of share repurchases, the usage of acquired shares and how much do companies repurchase let us realize reasons for repurchasing shares.

The first reason is *signaling*. For example, Vermaelen (1984) showed that companies use repurchases to signal outside investors about future profits. Under Bhattacharya (1979) model companies signal a need for costly external financing. While under Miller and Rock model (1985) companies signal quality (undervaluation) of their stocks. This issue will be closely evaluated in the next paragraph where I will present studies which analyzed stock-price reaction to share repurchases announcements in both short- and long-terms.

The second reason is *anti-takeover measures*. Company can buy share from most pessimistic investors, those who value company at least. Generally, Bagwell (1991) and Stulz (1988) showed that stock prices rise making a deal more expensive for the acquirer because the premium is rising.

The third reason comes from *agency* models. Repurchases can reduce overinvestment problem. Jensen and Meckling (1976) showed that more shares in management ownership decrease conflict of interest because provide managers with better incentives.

At the same time repurchases provide *flexibility* in comparison to dividends which are stickier. This is the fourth reason. Dividends are seen by markets as a future commitment so repurchases in this sense allow to pay out when and whatever amount company wants. Jagannathan, Stephens and Weisbach (2000) showed that dividend-paying firms have higher "permanent" part of cash flows while repurchasing firms has more volatile cash flow. Guay and Harford (2000) generally supported their evidence.

The fifth reason is to *remove low valuation stockholders*. Every investor has its own valuation of stocks due to taxes and information available so companies could exploit this when their own valuation is higher or in a case of takeover danger. Vermaelen (1981), Dann (1980), Brown and Ryngaert (1992) and Bagwell (1992) supported this proposition using data from fixed price tender offers as well as Dutch auctions.

The sixth reason is to *alter allocation of voting rights*. Dann and DeAngelo (1983) presented evidence that share repurchases were used to remove a threatening large block stockholder. Peyer and Vermaelen (2005) stated that usually such transaction leads to increase in share price which is in line with signaling theory. Apart from a motive decrease large shareholder's voting rights, managers can try to increase their ownership of voting rights by re-acquiring shares disproportionately from non-management stockholders. Comment and Jarrell (1991) showed that before fixed-price-tender offer, insiders held a median 28.6% of equity and their holdings increased on average by 4.8% after the repurchase offer. For Dutch auction

repurchases, they found that managers held median 6.6% of equity before repurchase and the median increase due to the offer was 0.5%.

The seventh reason is deployment of *stock option plans*. The logic here is the following. For companies paying dividends on the ex-dividend day their stock price decrease which reduces the option value if there is no dividend protection. Share repurchases are free from such a decrease so it could be a preferable way to distribute cash. Moreover, signaling theory generally states that after share repurchase there is both short- and long-term positive effects to share prices. Fenn and Liang (2001) found a strong negative relation between dividends and managerial stock options, and a positive relation between such options and stock repurchases. Weisbenner (2000) showed that large firms gradually repurchase shares to reverse the EPS dilution caused by stock options exercise.

The eights reason is to *increase EPS*. Brav et. al. (2005) based on a survey of US CFOs presented evidence that this motive is one of several which managers consider before the decision to repurchase. Hribar et al. (2006) found that management systematically use share repurchases to increase EPS in order to meet analysts' consensus forecasts. This finding fits the view that managers have a financial reporting motive for repurchases.

So repurchases have many advantages but there are still facts which prevent company for a full substitution of dividends with repurchases. First of all, there is a *historical explanation*.

For a long time there were institutional constraints to exercise share repurchases - in many countries they were prohibited. Even in US till 1983 there was a risk of repurchase treatment as market manipulation or imposing taxes on repurchases.

From theoretical perspective, Ofer and Thakor (1987) showed that signaling costs of repurchases are higher than that of dividends and the very signal of repurchases is stronger. So if future prospects of firm are higher than perceived by the market, then managers are prone to use repurchases. If the difference is not that big, management will use dividends.

Barclay and Smith (1988) and Brennan and Thakor (1990) analyzed adverse selection problem associated with share repurchases. Some shareholders are better informed about firm's prospects than others so former will bid to sell only when stock is worth more than tender price. Uninformed investors will receive only a portion of order when stock is undervalued but will receive the whole order when it is overvalued. In dividends there is no such an issue as every investor receives amount proportional to the percentage of ownership.

There is also a behavioral explanation of dividend preference over repurchases. As we discussed in the first paragraph Shefrin and Statman (1984) showed that investors prefer dividend-paying stocks because such stocks provide them with stable periodic cash flow which is

not the case with share repurchases which are unpredictable. Investors value income in a form of dividend more than an equal money amount of income in form of realized capital gain due to participating in stock repurchases.

Some researchers (Miller and Rock (1985) and Bhattacharya (1979)) view share repurchases as perfect substitutes as investors value total payout. Other (John and Williams (1985) and Allen, Bernardo and Welch (2000)) stated that there cannot be direct substitution between share repurchases and dividends.

Agency theory also states substitution, but not a perfect one. From one side, repurchases and dividends reduce potential overinvestment by taking money from management. From another side, dividend payout is a stronger commitment in comparison to no commitment under repurchase policy so managers will generally distribute temporary excess cash flows through repurchases and permanent excess cash flows through dividends.

All in all, there are advantages and disadvantages of using share repurchases as a payout policy mechanism but one of the most clear implications is derived from signaling theory that returns of stocks with announced information on planned repurchase are showing abnormal performance compared to market overall.

1.4. Share repurchase announcements and stock returns

As predicted by the signaling theory payout policy events indeed provoke stock price reaction and hence influence stock returns. In this branch of research scholars usually try to find excess stock returns which can help to determine how such events influence share performance and how informationally efficient is the market overall. As an introduction of this paragraph I will briefly describe how cash dividend announcements influence stock prices in both developed and emerging markets. And then proceed with research measuring stock prices reaction to share repurchases announcement in both short and long-term.

There is an extensive research which investigated a reaction of stock prices to announcements of cash dividend changes. The main method used in this bunch of research is event study which measures excess return over a “normal” model. Pettit (1972), Aharony and Swary (1980), Grullon, Michaely and Swaminathan (2002) found positive relation to dividend increase and negative - to a decrease. Other researchers (Asquith and Mullins (1983), Healy and Palepu (1988), Michaely, Thaler and Womack (1995)) confirmed the signaling theory logic while studying dividend initiations and omissions. There are two more general notions coming out of these researches. First, is that the immediate price reaction directly depends on the dividend size. Second, is that the reaction to dividend increases and initiations is generally

positive while for decreases and omissions - is negative. Based on represented research, on average, reaction to negative events is several times stronger than for positive.

But all mentioned earlier researches were made based on US market data. Applying event study methodology to dividend changes announcements in other markets did not provide such consistent evidence. For example, Vieira (2011) found positive abnormal return only for UK market but not for French or Portuguese ones. Karim (2010) found negative reaction for dividends increases announcements in UK and no reaction in US market. Another negative relation was found by Sorensen, Arveschoug (2004) in Denmark.

These studies were focused on developed markets. As for big emerging markets analyses are also not consistent with each other. Mallikarjunappa (2009), Taneem (2011) and Berezinets, Bulatova, Ilina (2013) confirmed signaling theory propositions in the Indian market showing that market reacts positively to dividend increases and negatively to dividend decreases. On the contrary, Sharma (2011) found no evidence of significant abnormal returns. This can be attributed to different samples and time intervals. For Chinese market Chen, Liu, Huang (2009) concluded that from 2000 to 2004 there was positive impact on stock returns from both increases and decreases of dividends. Results on Russian market are not consistent with theoretical notions. Teplova (2008, 2011), Berezinets et al. (2015), Rogova, Berdnikova (2014) showed that market reacts negatively to dividend increases.

All in all, predictions of signaling theory are generally confirmed for dividend increases and decreases in developed markets, while in emerging markets evidence is less consistent.

Now let us switch to signaling theory branch of research dealing with stock market reaction to share repurchases announcements. The evidence generally supports the hypothesis that market reacts positively to share repurchases announcements. Because of different degrees of market efficiencies it is worth to make a separation between research in developed and emerging markets. Another division in the literature which is worth doing is the time period which was used to assess share repurchases announcements on stock prices: short-term (usually, several days or weeks prior and after the event) and long-term (generally, from 1 year to 4 years).

Short-term reaction. I will start with analyzing research from developed markets. As for developed markets classical research was made by Vermaelen (1981) who applied event study methodology to 243 open-market and tender repurchases announcements in US from 1962-1978. Generally, he used several event windows (-60; +60), (-1; +1), (-5; +20) but window (-1; +1) showed the highest cumulative average abnormal return (CAAR) equal to 3,62%. For explanation of such a result he noted that information (signaling) hypothesis seems to explain to

large extent abnormal returns observed after a tender offer. Tax effects and effects of expropriation of wealth from bondholders also took small place in explanation. Dann (1981) on the sample of 300 repurchases for nearly the same period of 1962-1976 came to close conclusions that there are positive returns realized by common shareholders in a one day after repurchase announcement. Convertible bond and convertible preferred stock owners also increased their wealth but to a lesser degree: 3% on average versus 15% for stockholders. Basically, 95% of value increase is captured by common shareholders. Tax and expropriation of wealth from bondholders' hypotheses again were of a second-order consideration.

Further researchers used more powerful samples and again found evidence for signaling hypothesis. Comment and Jarrell (1991) analyzed 1037 repurchases over a period of 1984 to 1989 with an event window (-1; +1) and found that for fixed-price-tender offers average excess return was about 11%, for Dutch auctions - 8% and for open-market repurchase programs - 2,3% CAAR. Interesting result was the positive correlation between the size of repurchase and abnormal return: repurchase of more than 20% of the outstanding shares showed announcement abnormal return of about 6% compared to 2,3% for smaller ones. Ikenberry, Lakonishok, and Vermaelen (1995) used 1239 repurchases announcements from 1980 to 1990 and presented evidence that average market reaction to open market share repurchase announcement is 3,5%. Research of Chan et. al. (2004) and Grullon and Michaely (2004) analyzed around 5000 repurchases from 1980 to 1997 and found cumulative average abnormal return around 2,5%.

Research outside US usually showed lower abnormal returns. In Canada Ikenberry et.al. (2000) based on 1060 repurchases from 1989 to 1997 showed 0,93% CAAR. In Europe Andriosopoulos, Lasfer (2014) analyzed 970 announcements to repurchase shares in 1997–2006, split into 513 (53%) in the UK, 263 (27%) in France and 194 (20%) in Germany. Cumulative average abnormal announcement return is 1,55% which is lower than in US. The main reason for that due to researchers is regulation - in US repurchase can be authorized by Board of directors while in Europe generally there is a need for shareholder meeting approval. But there is no one picture among European countries with regards to reaction on share repurchases announcements. In Germany reaction is higher: Schremper (2002) on a set of 112 repurchases reported CAAR 4,1% on a (-1; +1) event window, Seifer and Stehle (2003) showed 5,9% CAAR on the same event window with 192 repurchases. In UK Rau and Vermaelen (2002) and Oswald and Young (2002) showed 1,1% and 1,4% CAAR respectively.

So all in all, there is consistent evidence that on developed markets there are significant positive short-term abnormal returns. Is the situation the same in emerging markets? Zhang (2005) found very moderate abnormal response to share repurchases announced by companies

from a Hong Kong stock exchange (0,43% over a three day window). Bhana (2007) showed evidence for South Africa based on a sample of 117 announcements from 2000 to 2003. There was a 4,38% announcement CAAR which is in line with signaling theory. Lin, Lin, and Liu (2011) conducted their research on Taiwan's market from 2000 to 2008 with a sample of 413 companies. Authors confirmed the general notion of a signaling theory but also showed that firms which experienced a larger decrease in stock price before the repurchase announcement were more prone to repurchase shares. Isa et al. (2011) on Malaysian market, Liao, Ke, Yu (2005) on Taiwan market showed positive abnormal returns and hence confirmed prior research on signaling theory.

Analysis of Indian market draws attention because it does not provide results consistent with other research. Chatterjee, Mukherjee (2015) examined the effect of share repurchase announcement by Indian companies during 2008–2012 based on a sample of 63 companies and found a negative abnormal return of -2,88% on a window (-20;+20) which does not support signaling hypothesis.

To summarize results of research on short-term reaction in both developed and emerging markets it is worth to note the working paper by Manconi, Peyer, Vermaelen (2015). Authors documented consequences of more than 20000 repurchase announcements from 32 countries. Generally, there is evidence that short-term stock returns are higher in US than in non-US (2.18% versus 1.42%). One of the possible explanations of it is better corporate governance and regulation which is consistent with results of Loderer et al. (2010). Another interesting result proving that signaling theory has a big explanatory power is that there is no country with significantly negative announcement return. Emerging markets in general has significantly positive announcement returns - at the window (-2; +2): China - 3,28%, India - 2,63%, Philippines - 4,15%, Thailand - 3,34%.

Long-term reaction. Starting point is again US market. Ikenberry, Lakonishok, and Vermaelen (1995) conducted one of the first research in this field. They used buy-and-hold abnormal return methodology to test whether there are excess returns after repurchase announcements on a sample of 1239 announcements in 1980-1990. They found that there is indeed a positive four-year abnormal return equal to 12,1%. Moreover, they divided stocks into two sub-samples with significantly different results. First sub-sample – "value" stocks (high book-to-market ratio) – which were more likely repurchased because of undervaluation experienced average abnormal return of 45,3%, Second sub-sample – "glamour" (low book-to-market ratio) stocks – where undervaluation did not have place showed no positive long-term reaction. Peyer and Vermaelen (2009) then supported previous research on a sample of 3481

open-market repurchases announcements between 1991 and 2001 and 261 fixed-price tender offers in 1987-2001. Over 4 years after announcement abnormal return was 24,25%, over one year – 2,67%, both significant at 1% level. As for explanations of such abnormal returns authors pointed that the highest abnormal return was observed at companies whose shares experienced high drop in a previous 6 months period and generally were undervalued. Fu and Huang (2014) showed on announcements from 2003 to 2012 that the long-term abnormal performance drift (also referred as buyback anomaly) has disappeared in US in last years. But Manconi, Peyer, Vermaelen (2015) using a two times more powerful sample – 6910 versus 3773 over the common period of research 2003-2010 – showed that it is not the case and long-term abnormal returns are still in place. Yook (2010) and Chan et. al. (2004) confirmed this logic based on different US datasets.

Switching to other developed markets, McNally and Smith (2007) using 2547 announcements of share repurchases in Canada from 1987 to 2000 found significantly positive alpha coefficients in all methods and time horizons they analyzed which suggest that there is a presence of long-run abnormal returns. This research basically supported prior research by Ikenberry et. al. (2000). Park and Jung (2005) in Korea, Firth and Yeung (2005) and Zhang (2005) in Hong Kong showed that on Asian market buybacks indeed produce significantly positive long-term returns. In Sweden Rasbrant (2013) and Crawford and Wang (2012) in U.K. showed that there is also long-term abnormal return but to a lower extent than in US market.

The research of long-term excess returns in emerging markets is still developing. Evidence generally supports signaling theory but sometimes lacks statistical significance. Akyol and Foo (2013) used 761 repurchase announcements between 1998 and 2008 and showed that in Australia there is 6,27% 3-year abnormal return though not statistically significant. In South Africa Pienaar and Krige (2012) based on 113 repurchase announcements between 2000 and 2007 showed 26,57% 3-year buy-and-hold abnormal return which is statistically significant at 5% level. Su and Lin (2012) analyzed 303 announcements from 2000 to 2003 with four different methodologies and showed that on Taiwanese market announcements of repurchases lead to negative abnormal returns. Wang, et al. (2013) used more powerful sample of announcements from 2000 to 2010 and presented evidence for 3-year BHAR equal to 19,67%, significant at 1% level.

To sum up, the results of research dedicated to long-term reaction on share repurchases announcements I will again switch to working paper of Manconi, Peyer, Vermaelen (2015). They state that regardless of model used in estimation and time horizon both US and overall non-US repurchases are always followed by positive excess returns which are statistically significant.

They mainly used calendar-time alphas methodology and showed that average monthly abnormal return following repurchase announcements lies between 0,32% and 0,76% with some variation on model used and time horizon. All results are statistically significant but there is some variation across US and non-US samples. European countries' companies has lower monthly long-horizon excess returns (0,1% - 0,3%) than US or Japanese companies. I would like to finish this paragraph with a graph of long-term announcement return across regions.

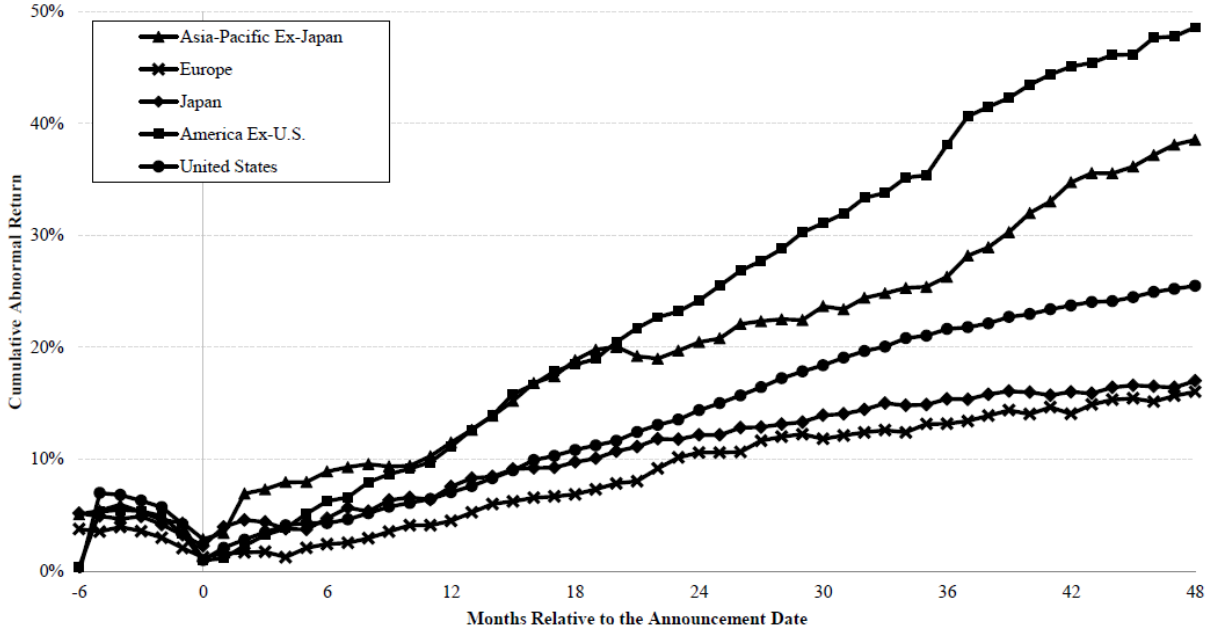

Figure 7 Monthly cumulative abnormal long-term returns followed 20 000 buyback announcements over the period 1998 – 2010, by regions[1] Source: Joan Farre-Mensa, Roni Michaely, Martin Schmalz. University of Michigan. Ross School of Business Working Paper. Working Paper No. 1227. February 2014

So how researchers explain results showing positive abnormal returns in both short-term and long-term perspectives? The most influential factor which influences returns of buybacks across developed and emerging countries is governance. Under governance Loderer, et al. (2010) and Manconi, Peyer, Vermaelen (2015) understand legal origin, implementation of Country Corporate Governance Code and governance at a firm level represented by board structure, compensation programs, shareholder rights, audit practices, etc. Generally, the higher the governance the higher excess returns are.

The paragraph showed that there is evidence supporting signaling theory in both short- and long-term perspectives. Managers point of view is also in line with this notion. Brav,

[1] Regions. America Ex-US: Brazil, Canada, Mexico; Asia-Pacific Ex-Japan: Australia, China, Hong Kong, India, Indonesia, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan, Thailand; Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Israel, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, UK.

Graham, Harvey, and Michaely (2005) showed that 86% of managers agree with the proposition that firms repurchase stock when it is undervalued.

1.5. Market and research context for share repurchases in Russia

The following part serves as a bridge between theoretical findings and practical application. Here I will briefly discuss Russian stock market main features and prior research on Russian share repurchases. These factors influence the design of analysis and will be helpful in discussion of results. In the end of the part a research gap is stated.

First let us make an overview of Russian stock market. Russian market is very different from developed markets and from some emerging ones because of history of legal, institutional and economic development of Russia. The market is young – established in 1991, active trading began in 1994, about 20 years ago, while many exchanges are in place for 100 and more years.

Size of the market is usually measured by market capitalization in USD and here the main Russian exchange – Moscow exchange can be considered as a small one, especially after a drop in USD/RUB exchange rate in 2014. Capitalization is now estimated to be 393 bln. USD. Comparison with market capitalizations of other countries' stock exchanges can be seen below.

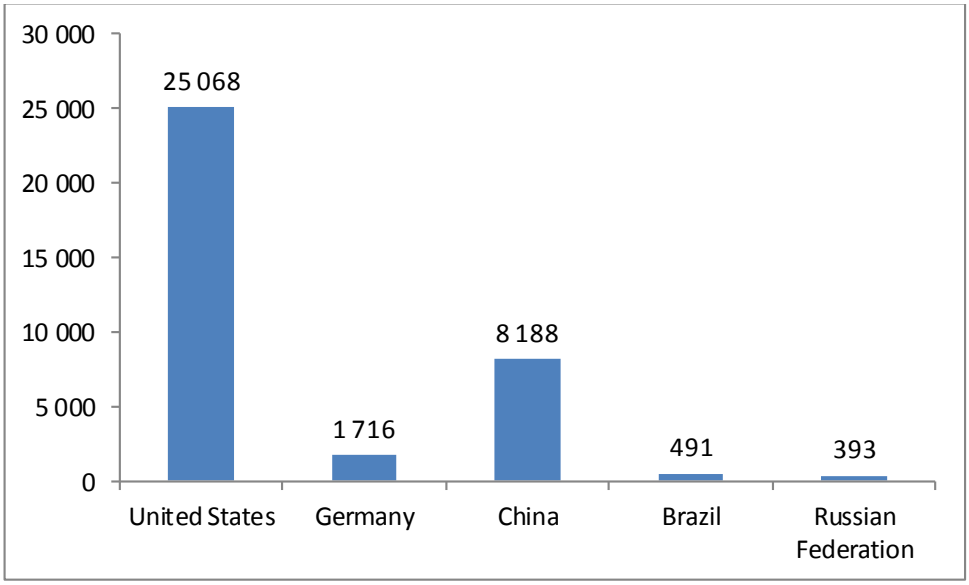

Figure 8 Market capitalization of listed domestic companies, bln. USD. Source: World Bank. http://data.worldbank.org/indicator/CM.MKT.LCAP.CD/countries

One more estimator of market size is number of listed companies. In Russia on Moscow Exchange there are around 251 listed companies which is a small number in global perspective. For comparison in Brazil – 345; in China – 2827: in Germany – 555; in USA – 4381.[2]

[2] Source: World Bank. http://data.worldbank.org/indicator/CM.MKT.LDOM.NO/countries

Another parameter which characterizes the market is liquidity. There are many measures of it. One of the measures is turnover ratio of domestic shares (%) which is value of domestic shares traded divided by their market capitalization. Below there is a graph showing this indicator across several countries.

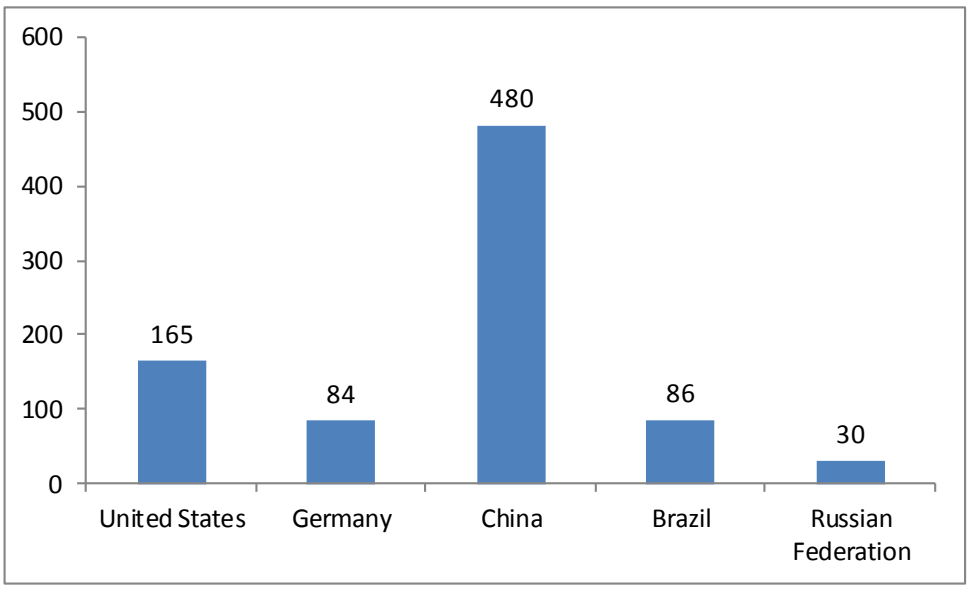

Figure 9 Turnover ratio of domestic shares (%). Source: World Bank. http://data.worldbank.org/indicator/CM.MKT.TRNR/countries

Another feature of Russian stock market is high concentration. If we take main index of the exchange – RTSI which is an index weighted by market capitalization – 73% of its' calculation comes from only 10 companies: Gazprom, Sberbnak, Lukoil, Novatek, Magnit, Rosneft, GMK Norilskii Nikel, VTB, Transneft and Surgutneftegaz. It is an evidence of very high concentration. From names above it is also evident that main Russian stocks represent Oil & Gas companies: 6 out of top 10. Also there is evidence of high government ownership of stocks – around 50%.

From the point of view of share repurchases, facts above mean that there is not a lot of companies which potentially could exercise share repurchases as market is not that big and liquid. But probably, biggest companies could repurchase shares more often.

Now let us switch to a summary of Russian stock market development. Active trading started in 1994 with voucher privatization. Then active inflow of capital was observed till 1998 when Russian government defaulted on short-term bonds. After that we saw a big inflow of money and hence market growth in 2001-2003. Then the Yukos case undermined general trust to Russian market but at that time oil price rose and market which constituted mainly of Oil & Gas firms also grew substantially till 2008. In 2008 global economic crisis reached Russia primarily through oil prices decrease from 140$ below 40$. Afterwards oil prices get back to levels around 100$ and stayed there from 2009 to 2014. But structural problems in Russian economy continued

to accumulate and after 2011 they are one of the drivers of stock market decline. Drop of oil prices in 2014 and Ukrainian crisis followed by sanctions lead to even sharper decrease. The graph of RTSI index is presented below.

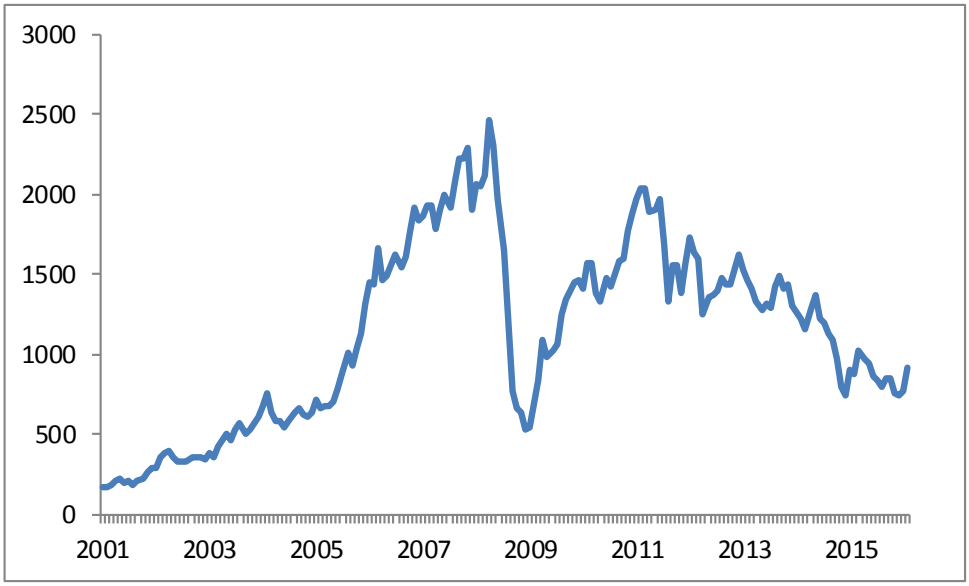

Figure 10 Dynamics of RTSI Source: Finam

This stock market development reflects that there could be more repurchases' announcements before crisis because of growing economy and corporate profits which have to be to some extent distributed to shareholders.

One final comment with regards to Russian stock market is the level of governance. As it was shown in previous parts of this review governance is one of the main factors determining excess returns associated with repurchase announcements. Russia is characterized by low level of corporate governance (Black, Love, Rachinsky (2006), KPMG (2013)). There is high degree of concentration of ownership and the leading role of majority shareholders in company management. Low level of protection of shareholder rights (for example, case with Yukos minority shareholders), sometimes nominal role of the board of directors and lack of internal control and audit bodies leads us to a conclusion that governance level is low.

As for research on share repurchases, developed markets' reaction to announcements is already well documented, research in the field is now more and more focused on emerging markets. But as to my knowledge there was no international research including analysis of Russian share repurchases datasets. As for papers on share repurchases by Russian scholars, they are generally exploratory and at most descriptive without any quantitative analysis which can add explanatory power. Kuzmichyov (2012) collected evidence on 26 deals from 2006 to 2012. He stated that there were two "waves of interest" to share repurchases: in 2008 and in 2011-2012. First was driven by an attempt of companies to increase stock prices in crisis time. Second wave of 2011-2012 was driven by two factors: first, economy stabilized after crisis so did

companies' profits, and second, companies were trying to reverse decreasing stock market trends with repurchase announcements. As for the main instrument of share repurchase companies chose open market repurchase. As for main motives of repurchases companies stated capital structure optimization and dealing with company's undervaluation. Sibova (2013) noted that because of high level of ownership concentration agency theory explanation of repurchases is not applicable. At the same time she confirmed Kuzmichyov's (2012) findings that undervaluation is a main driver. She stated that in Russia there are only two situations when repurchases should be used: when companies' shares are traded below intrinsic value or when there is a free cash flow which can be distributed without decreasing companies' competitiveness and growth. Generally, all this papers focused on factors influencing decision of share repurchases but no regression analysis was provided to statistically test these factors influence. So all in all, there is neither in depth research showing a stock market reaction to repurchases nor the profound understanding of factors influencing company's decision to announce and exercise buy-backs.

On the contrary, cash dividends, another vehicle of payout policy, is researched quite good. To my research particularly valuable are papers investigating information efficiency of the market, namely, stock market reaction to dividend increases and surprises. Theoretically, according to signaling theory dividend increases and positive dividend surprises (dividends more than expected) should lead to positive excess return of stocks. On the contrary, dividend decreases, omissions or negative surprises (dividends less than expected) should lead to negative excess return of stocks. In Russian market theory is not confirmed – both positive and negative events lead to negative excess returns. Such results are quite consistent over different time periods, samples and methods. Teplova (2008) showed that Russian and foreign investors perceive negatively information on increase in dividends for Russian companies with investment opportunities and financial constraints. For companies with significant cash flows and potential agency conflicts (oil and gas sector) investors positively perceive an increase in dividends. Teplova (2011) on another sample again found no evidence consistent with the theory. For possible explanation author stated that accumulated pessimism and disbelief of market participants who perceived dividend increases as a lack of investment opportunities. Rogova, Berdnikova (2014), Berezinets et al. (2015a) also showed that market reacted negatively to dividend increases and Berezinets et al. (2015b) confirmed such a notion with analysis of dividends surprises. All in all, there is country-specific evidence showing that signaling theory has limited power in the Russian market.

The research gap summarizes all literature observed before and represent the venue for this research. In academic literature on payout policies there is large accumulated evidence that announcement of payout policy events (cash dividends or share repurchases) influence stock prices in both short- and long-terms. This branch of research is called signaling theory which states that markets react positively to repurchase announcements and dividend increases, and negatively to dividend decreases. But on the Russian market there is consistent evidence against signaling theory tested on stock prices reaction to cash dividends announcements: Teplova (2008, 2011), Rogova, Berdnikova (2014), Berezinets et al. (2015a) and to cash dividend surprises: Berezinets et al. (2015b) . Also as was showed earlier in the chapter to my knowledge there is no research testing repurchases announcements on stock market in Russia. So the goal of this analysis is to close this gap so that researchers, companies and investors better understand this payout policy mechanism which is widely spread and has proved its' effectiveness around the world.

Chapter 2. Empirical research

This chapter is devoted to analysis of impact which share repurchases announcements have on stock returns in the Russian market. The main methodology applied in the research is event study which shows whether there are abnormal returns linked to a share repurchases announcements. Two types of periods are used and respectively two different modifications of event study methodologies are applied: cumulative abnormal return (CAR) method - for short-term reaction (several days) and buy-and-hold abnormal return (BHAR) method - for long-term reaction (one year). Finally, based on results discussion managerial implications concerning the use of share repurchases as a payout policy mechanism are presented.

2.1. Methodology of the research

To analyze the reaction of significant economic or corporate event researchers widely apply event study. The basic notion is that event announcement is unexpected. This method is used in mergers and acquisitions, earnings, dividends, share repurchases announcements, etc.

Event study method provides estimates of excess returns with regards to different event windows and help to test these results for significance. Previous research on the topic discussed in Chapter 1 showed that this method is widely applied for share repurchases announcement in both classical (Vermaelen (1981)) and up-to-date (Chatterjee, Mukherjee (2015)) papers for both developed and emerging markets (Manconi, Peyer, Vermaelen (2015).

Moreover, it allows to test informational efficiency of the market which due to Fama (1970) is concerned with whether prices at any point in time “fully reflect” available information. Strong-form of market efficiency is observed if individual investors or groups have monopolistic access to any information relevant to price formation. In a market with semi-strong-form when prices reflect all publicly available information including historic prices while under the weak-form only historic prices are reflected.

Signaling theory which was explored in Chapter 1 predicts that share repurchases announcements trigger excess stock returns. Under excess stock returns researchers understand the portion of a stock’s return which cannot be explained by market’s rate of return combined with specific return of a stock. Hence excess returns are attributed to some event - in my case share repurchase announcement. Based on the theory two hypotheses were derived. They are going to be tested on the Russian market.

H1: Share repurchases announcements trigger positive excess stock returns in a short term;

H2: Share repurchases announcements trigger positive excess stock returns in a long term.

As testing each of mentioned above hypotheses requires different techniques of event study methodology, I will proceed as follows. First, present an algorithm for testing H1 and after that show a testing procedure for H2.

To test H1 I apply event study using cumulative abnormal returns method (CAR). This method is widely used to measure short-term reaction of stock prices on share repurchases announcements. There is a step-by-step algorithm of CAR so let us now consider each step in more details.

Concretization of analyzed event. In event studies an event date should reflect a moment when information for the first time appears in the market. Share repurchases are usually announced on board of directors meetings so this date is chosen as an announcement date. Sometimes results of board of directors meetings are not disclosed. In this case information usually gets to the market after shareholder meetings where repurchases are approved. Another issue is rumors before board of directors or shareholders meeting. Though this information can to some extent influence the market, it is not a best way for a research to choose rumor date as an event date because it is hard to track rumors' first source and date. All in all, in this research in line with most studies as an event date of share repurchases announcements of Russian companies' dates of board of directors meetings are used.

Event window. Event window is a number of days before and after the announcement date over which abnormal returns are accumulated (Konchitchki and O'Leary, 2011). While choosing the event window the nature of an event and its magnitude are important. From one side event window should be long enough to capture stock price reaction to an announcement. From another side, the longer the window the more is the probability of extra noise, namely, other events influence stock price behavior. For some events like mergers and acquisitions announcements researchers can use event windows up to 5 years (Agrawal et al., 1992).

But to measure short-term reaction to share repurchases announcements researchers usually choose an event window which is no more than 41 days: 20 days before and 20 days after the event. Based on research on developed markets conducted by Vermaelen (1981), Comment and Jarrell (1991), Ikenberry et al. (1995), Chan et al. (2004), Grullon and Michaely (2004), Ikenberry et al. (2000), Li and McNally (2007), Dong et al. (2008) it can be concluded that event windows (-1; +1) and (-2; +2) are usually applied for share repurchases

announcements. But researchers of emerging markets Zhang (2005), Lin (2011) and Isa (2011) applied longer event windows of (-20; +20).

Russian market research on excess returns of payout policy events (usually, dividends announcements) suggests medium event windows: Teplova (2008) and Berezinets et al. (2015a) used (-10; +10) windows and Berezinets et al. (2015b) and Rogova, Berdnikova (2014) used (-5; +5) event windows.

Taking into consideration all previous research I decided to apply two event windows to the sample. First is 10 days (-5; +5) so that research is more comparable with Russian market scholars and 5 days (-2; +2) so that research can be compared with a current global research on share repurchases which is conducted by Manconi, Peyer, Vermaelen (2015). Below you can see schematic representation of event windows applied in this part of research.

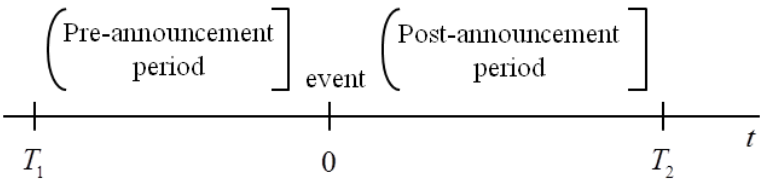

Figure 11 Event window for short-term reaction on share repurchases announcements

Observed stock returns. For each stock and for each trading day of each window R_{it} is calculated. All returns here and below represent daily returns. Daily close stock prices for companies were obtained from Yahoo. Finance and Finam websites. Daily returns were calculated using log returns:

$$\boldsymbol{R_{it} = ln\frac{P_{it}}{P_{it-1}}, where} \ (1)$$

R_{it} – period-t observed return on stock i;

P_{it} – period-t stock i price;

P_{it-1} – period-(t-1) stock i price.

Returns of both stocks and market index are calculated in the logarithmic form. Log returns have several advantages over simple returns. First of all, log-normality - under log normally distributed prices $ln(1+r_i)$ is normally distributed on the interval (-∞; +∞). This is not the case with simple returns which are distributed on the interval (-1; +∞). Another advantage of log-returns is time-additivity.

Expected (normal) returns. Expected returns are calculated based on a model chosen for the analysis goals. This is the most controversial step of an event study methodology because the

whole estimation is dependent on the choice of a model. Most researchers use constant mean return models or market models (single-factor model reflecting CAPM). Sometimes three- or four-factor Arbitrage Pricing Theory models are used but this method is complicated. A constant mean return model implies that the mean daily stock return is constant over time. This is rarely the case in real world so for this paper I chose market model which is build on an assumption that the linear dependence between stock return and market return will endure. Usually the following structure of the model is used:

$$\boldsymbol{E(R_{it}) = \alpha_i + \beta_i R_{mt} + \mu_{it}}\text{, } \boldsymbol{where} \ (2)$$

$E(R_{it})$ – period – t expected (normal) return on stock i;

R_{mt} – period – t return on market index;

α_i, β_i, μ_i – estimated model parameters.

Main parameter of the model is β_i which is calculated with an Ordinary Least Squares method based on an estimation window is then applied to calculate expected return for each day of estimation window. It is worth to mention that parameter stays constant through the event window.

As a market index in this research RTS Index was used. RTSI is the weighted by market capitalization (free-float) composite index of the Russian stock market, which includes 50 most liquid stocks of the largest and most dynamically developing Russian listed companies, economic activities. RTSI was chosen as it is measured in dollars so it makes results of estimation comparable to results from other studies without a need for FX conversion.

Estimation window is the period of time which is used to estimate parameters of a market model. An important methodological point is that event windows and estimations windows should not intersect as well as event windows for one company should not intersect. Generally, as stated by Peterson (1989) in academic literature the average estimation window is between 100 and 300 days. Zhang (2005) used 250 days: 270 to the event. Teplova (2008) used 5 months as a period for the estimation, Rogova, Berdnikova (2014) used 120 days prior to event window. Berezinets et al. (2015a) and Berezinets et al. (2015b) used 180 days.

Taking into consideration previous research I decided to apply 250 trading days (roughly, a calendar year) estimation window in my research. On one hand, this estimation window is not too short so it allows to make adequate estimations of market model parameters. From the other hand, estimation window is not too long so that estimation is made on a relevant data. So below you can see schematic representation of event and estimation windows for this research.

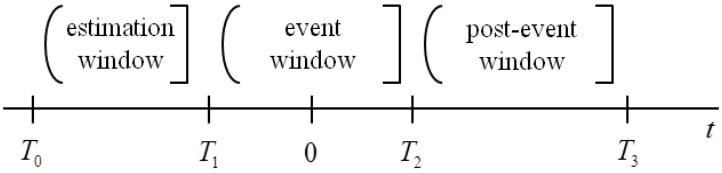

Figure 12 Timeline for an event study

Abnormal returns (AR). After identifying an event, event and estimation windows, observed and expected returns we need to identify abnormal returns. These returns are calculated by subtracting expected return from observed return on day t for stock i:

$$\boldsymbol{AR_{it} = R_{it} - E(R_{it})\,, where} \quad (3)$$

AR_{it} – period – t abnormal return on stock i;

R_{it} – period-t observed return on stock i;

$E(R_{it})$ – period – t expected (normal) return on stock i.

So at this step a deviation of observed stock return from expected stock return is calculated.

Cumulative abnormal returns (CAR). Positive CAR shows that an event indeed lead to excess returns and hence increasing company value. For each day of the event window cumulative abnormal return represents a sum of all abnormal returns of prior event window days. Below there is a formula of CAR for stock i on the last day of event window (T_2).

$$\boldsymbol{CAR_{it} = \sum_{t=T_1}^{T_2} AR_{it}\,, where} \quad (4)$$

CAR_{it} – cumulative period – t abnormal return on stock i;

AR_{it} – period – t abnormal return on stock i.

Average abnormal returns (AAR) represent abnormal returns for each day of an event window aggregated through all events. It helps to understand the magnitude of reaction to an event on various days of event windows:

$$\boldsymbol{AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it}\,, where} \quad (5)$$

AAR_t – average abnormal return period – t of event window;

AR_{it} – period – t abnormal return on stock i.

Cumulative average abnormal returns (CAAR). This measure represents average cumulative abnormal return for each announcements and basically shows whether for the whole sample of events announcements lead to abnormal returns.

$$\mathbf{CAAR} = \frac{\mathbf{1}}{\mathbf{N}}\sum_{\mathbf{i=1}}^{\mathbf{N}} \mathbf{CAR_i}\ \mathbf{,where}\ (6)$$

CAAR – cumulative average abnormal return for the whole event window;

CAR_i – cumulative abnormal return on stock i over the whole event window.

Significance testing. The final stage of event study methodology helps to show whether abnormal return is statistically significant. If the reaction of the market to the event is positive and statistically significant, hence on average event leads to increase in company value. Assumptions of event study methodology state that ARs and CARs need to be normally distributed so that results are significant. If the normality assumption holds the hypothesis that event influence stock returns could be accepted.

The t-test was performed to realize whether measured abnormal returns significantly differ from zero. Usually tests for both ARs and CARs are applied. First I will show the procedure for testing ARs.

$H_0: E(AAR_t) = 0$

$H_1: E(AAR_t) \neq 0$

To test hypothesis above the following t-statistic is used:

$$\boldsymbol{t_{AAR_t}} = \sqrt{\boldsymbol{N}}\frac{\boldsymbol{AAR_t}}{\boldsymbol{S_{AAR_t}}}\ (7)$$

$$\boldsymbol{S^2_{AAR_t}} = \frac{\mathbf{1}}{\boldsymbol{N}-\mathbf{1}}\sum_{\boldsymbol{i=1}}^{\boldsymbol{N}}(\boldsymbol{AR_{it}} - \boldsymbol{AAR_t})^{\mathbf{2}}\ \boldsymbol{,where}\ (8)$$

t_{AARt} – AAR t – period t-statistics;

AAR_t – Average abnormal return in period t;

N – number of events in the sample;

S_{AARt} – standard deviation of AARs;

AR_{it} – period – t abnormal return on stock i.

Now I will show the procedure for testing the significance of CARs which is similar to that applied for ARs.

$H_0: E(CAAR_t) = 0$

$H_1: E(CAAR_t) \neq 0$

To test hypothesis above the following t-statistic is used:

$$\boldsymbol{t_{CAAR}} = \sqrt{\boldsymbol{N}}\frac{\boldsymbol{CAAR}}{\boldsymbol{S_{CAAR}}} \quad (9)$$

$$\boldsymbol{S^2_{CAAR}} = \frac{\boldsymbol{1}}{\boldsymbol{N-1}}\sum_{\boldsymbol{i=1}}^{\boldsymbol{N}}(\boldsymbol{CAR_{it}} - \boldsymbol{CAAR})^{\boldsymbol{2}}, \boldsymbol{where} \quad (10)$$

t_{CAAR} – CAAR t – period t-statistics;

CAAR – Cumulative average abnormal return for the whole event window;

N – number of events in the sample;

S_{CAAR} – standard deviation of CARs;

CAR_{it} – period – t cumulative abnormal return on stock i.

Critical region for testing these hypotheses is two-sided. Critical levels for different levels of significance were obtained with (N-1) degrees of freedom. Finally, obtained t-statistics is compared to critical levels. If obtained statistics exceeds critical value by absolute value the result is significant at a given significance level and hence it could be inferred whether there are negative, positive or neutral short-term excess returns associated with share repurchases announcements in Russia.

To test H2 I apply event study using Buy-and-hold abnormal return method (BHAR). This method is widely used to measure long-term reaction of stock returns on share repurchases announcements. Barber and Lyon (1997) showed that cumulative abnormal returns are prone to biases by ignoring compounding and are biased predictors of long-term abnormal returns. Also they noted that CARs are not resistant towards new listings bias, skewness bias and measurement bias while BHAR suffers from first two of them and a rebalancing bias but all of them can be eliminated by using control firms. Mitchell and Stafford (2000) described BHAR as “the average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period versus a comparable strategy using otherwise similar nonevent firms”. They stated that BHAR shows the real investor experience while other approaches including calendar-time portfolio approaches include periodic rebalancing of portfolio which is rarely the case in real life. Another appealing feature of BHAR approach is pretty straightforward estimation technique which does not require much data. Ritter (1991), Lyon, Barber, Tsai (1999) and others used this methodology over another one established for measuring long-term abnormal returns – calendar-time portfolio approach (Jensen’s alpha approach). The latter method is also widely applied in event studies but in my research I decided to exploit one method – BHAR. Below I will show an algorithm of the method.

First step of BHAR algorithm – *concretization of analyzed event* – was already executed and presented while describing CAR method.

Event window. To choose an event window a trade-off between too short and too long window should be achieved. On one hand, event window should be long enough to reflect a long-term effect of announcements on returns, not a speculative one. On the other hand, event window should not be too long because in that case probability of other events influencing stock performance increasing. Another issue here is data availability – sometimes companies de-list their shares which decrease number of events in a dataset. Based on works of Ikenberry et al. (1995), Chan et al. (2004), Ikenberry et al. (2000), McNally (2002), Dong et al. (2008) the event window of 1 year was chosen for the analysis. Below you can see schematic representation of event window applied in this part of research.

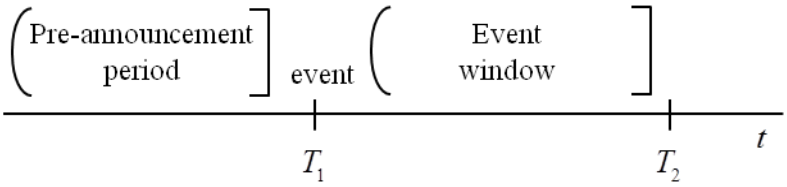

Figure 13. Event window for long-term methodology

Observed stock returns are obtained using log returns as in short-term part of research using the corresponding formula on page 38.

Expected returns. As was shown above, methods used to measure short-term effects are not applicable for long-term ones. So here expected return is represented by control firms or matched portfolios. Analysis of my sample and search for control firms or portfolios matched by size and book-to-market value showed that there is a limited number of companies which can be matched resulting in negligible sample.

To solve this problem I applied industrial indices of Moscow Stock Exchange as matched portfolios. Logic here is the following: investor can choose an investment in the particular stock or the sector portfolio. Announcing share repurchase could become an event which creates a divergence in dynamics between stock and portfolio. This limited data factor and chosen methodology provide limitations for my research. First, some portfolios include the event stock itself and secondly, industrial indices are quite diverse in nature: for example, Consumer Goods index includes both producers (Farmstandart) and retailers (Magnit). This raises serious questions to generalization of conclusions.

The calculation procedure is the same applied for observed stock returns – log returns – but now the market index. The formula is presented on page 38.

Calculate Buy-and-hold abnormal returns (BHARs) for each company announcement. This measure represents whether investment in event company was more profitable than investment in the index portfolio of companies. Positive BHAR shows that the described above notion is true, while negative BHAR – false.

$$\widehat{\boldsymbol{BHAR}}_{\boldsymbol{i}} = \prod_{t=T_1}^{T_2}(1 + R_{it}) - \prod_{t=T_1}^{T_2}(1 + R_{it}^{index}), \boldsymbol{where} \quad (11)$$

$BHAR_i$ – Buy-and-hold abnormal return for stock i;

R_{it} – t – period observed return on stock i;

R_{it}^{index} – t – period return on corresponding to stock i indutrial index;

T_1 – event date; T_2 – event date + 1-year event window.

Calculate Average Buy-and-hold abnormal returns (ABHARs) over all announcements. This measure shows whether in the whole sample there is an evidence for stock abnormal performance in a year period after announcement.

$$\boldsymbol{ABHAR} = \frac{1}{N}\sum_{i=1}^{N} \boldsymbol{BHAR}_{\boldsymbol{i}}, \boldsymbol{where} \quad (12)$$

ABHAR – Average buy-and-hold abnormal returns;

N – number of events in the sample;

$BHAR_i$ – Buy-and-hold abnormal return on stock i.

Test for significance. If the performance of the stock after the event is positive and statistically significant, hence on average event leads to increase in company value. Assumptions of event study methodology state that BHARs need to be normally distributed so that results are significant. If the normality assumption holds the hypothesis that event influence stock returns could be accepted.

The t-test was performed to realize whether measured abnormal returns significantly differ from zero. Here is a procedure for testing ABHAR for significance.

$H_0: E(ABHAR) = 0$

$H_1: E(ABHAR) \neq 0$

To test hypothesis above the following t-statistic is used:

$$\boldsymbol{t_{ABHAR}} = \sqrt{\boldsymbol{N}}\frac{\boldsymbol{ABHAR}}{\boldsymbol{S_{ABHAR}}} \quad (13)$$

$$S^2_{ABHAR} = \frac{1}{N-1}\sum_{i=1}^{N}(BHAR_i - ABHAR)^2, where \quad (14)$$

$t_{ABHAR} - t - statistics\ for\ ABHAR;$

ABHAR – Average buy-and-hold abnormal returns;

N – number of events in the sample;

S_{ABHAR} – standard deviation of $BHAR_i$;

$BHAR_i$ – Buy-and-hold abnormal return on stock i.

Critical region for testing these hypotheses is two-sided. Critical levels for different levels of significance were obtained with (N-1) degrees of freedom. Finally, obtained t-statistics is compared to critical levels. If obtained statistics exceeds critical value by absolute value the result is significant at a given significance level and hence it could be inferred whether there are negative, positive or neutral long-term excess returns following share repurchases announcements in Russia.

2.2. Data description

The research was conducted based on the sample of Russian companies. The Russian market does not have a long history in contrast to developed markets. So there is a clear lack of research on it. Particularly in Chapter 1 I have showed that there was no in depth research of share repurchases executed on the Russian market. So this analysis will contribute to knowledge of Russian companies payout behavior and investors' decision making. To say more, share repurchases as a part of payout policy serve as a mechanism to attract investors in companies' stocks which increases capitalization and trust from the market participants' side.

Now I am going to describe a sample of events and a way it was obtained. First, my goal was to obtain the most powerful sample of events so as a time frame I chose the whole period of Russian market existence - the second half of 1990-s. Under Russian market for the purpose of this study I consider stocks traded at the Moscow Exchange, before the creation of Moscow Exchange – stocks from MICEX or RTSI indices. Secondly, there is no one source of information with profound share repurchases announcements data in the Russian market. Hence, to create the most complete and up-to-date dataset I used three sources:

- Thomson Reuters One Banker Database (46 deals);
- ZEPHYR Bureau van Dijk (209 deals);
- Kuzmichyov, 2012 (26 deals).

As a source for a check I used Sberbank CIB archive of eminent' corporate actions[3] which contains information not only on repurchases but on a broader set of events. At this stage of research the sample contained 237 events. Share repurchases of ordinary shares and depositary receipts are included in the sample.

Then data were reviewed to find share repurchases which indeed represent payout policy decisions and which can be analyzed using event study methodology. There are several types of deals which were excluded:

- Share repurchases of nonpublic companies (LLC, CJSC). Such companies are out of scope of the research because there is no market data required to perform analysis using event study methodology.
- Share repurchases connected to delistings. First of all, such kind of event does not represent a payout policy event and secondly, after the repurchase delisting is happening so applying event study methodology is impossible. For example, Uralkalii, 2015.
- Share repurchases as a part of internal group transactions. Repurchase of shares by one entity inside a consolidated group reflects a financing decision but not a payout one. So is could not influence stock prices and is out of research scope. For example, MTS, 2016.
- Share repurchases from one shareholder. Such repurchases represent deals with control distribution between management and one shareholder so it is not a payout policy event and such events are out of scope. For example, Vimm-Bill-Dann, 2010; Severo-Zapadnaya Tets, 2008.
- Share repurchases of financial sector companies. Companies of financial sector (banks, insurance companies, exchanges) differ significantly from all other companies and their performance including stock prices behavior is dependent on a development and expectations of an economy in general. Moreover, there is specific regulation including accounting standards which differ substantially from standards applied for other companies. For example, MMVB-RTS, 2014.
- Rumoured but not announced repurchases. Market usually reacts to rumours which can be caused by insider information disclosure, press publications, etc. Event study methodology can be applied even for rumours but strictly speaking there is no way to determine the date of the rumour coming into the market. So only share repurchases

[3] Sberbank CIB. http://www.sberbank-cib.ru/rus/info/corp/archive.wbp

announced after shareholders meetings or board of directors meetings are analyzed. For example, RAO EES Rossii, 2004.

- Share repurchases of Russian companies which are not traded at the local market (Moscow Exchange) having only ADRs or GDRs traded. Event studies presented in Chapter 1 grouped and analyzed repurchases of stocks traded on one exchange because there is different dynamics across markets. So share repurchases of Rusagro, 2012; EVRAZ, 2011 and Etalon, 2011 cannot be evaluated with an event study technique.

Then within the remaining sample all data were checked for consistency. For most of repurchases dates of announcements differed in various databases so I cross-checked all data on corporate pages in the Internet and SKRIN system.

Then the whole sample was checked for other significant events inside the short-term event window of 11 days (-5; +5). Significant events like merger or acquisition announcements, earnings announcements, change of CEO or Board of Directors send market strong informational signal, hence influence stock prices. So share repurchases of companies that had such events inside an event window were excluded from the sample.

Finally, a liquidity check was made to exclude illiquid companies with no trade dynamics of more than 14 days in a row. Companies without stock dynamics information were excluded from the dataset. Specifically, I needed to obtain data for an estimation window - 250 trading days before the event window (255 days before the announcement). It is worth to mention that companies which were de-listed were still included in the sample so that analysis is resistant towards survivorship bias.

The final dataset for testing short-term effect of share repurchases announcements on stock returns consists of 52 announcements made by Russian companies from 2003 to 2015 (Appendix 1. Sample of Russian companies announced repurchases and analyzed for short-term effect of announcement on stock returns.).

As for an analysis of long term impact of announcements on stock returns I needed to additionally obtain stock prices data a year ahead from an announcement day. Moreover, I had to obtain corresponding in time datasets for a benchmark portfolio of stocks – in my case industrial indices of Moscow Stock Exchange. All in all, from a dataset used to evaluate short-term effect I excluded 10 announcements: 9 of them because of lack of data and one, Avtovaz, because of stock split inside the year-after period.

The final dataset for testing long-term effect of share repurchases announcements on stock returns consists of 42 announcements made by Russian companies from 2005 to 2015

(Appendix 2. Sample of Russian companies announced repurchases and analyzed for long-term effect of announcement on stock returns.).

2.3. Estimation results

In this section results of estimation will be presented and analyzed. Event studies using two different event windows were conducted to investigate short-term reaction of stock prices of companies from Russia to share repurchases announcements. Theoretically in line with signaling models such announcements are considered to be good news for investors so there is an expectation of positive excess returns around announcements.

First of all, here is descriptive statistics of the research. Analysis of share repurchases announcements by industry showed that the highest number of announcements (almost half of all – 44%) was made by companies from Oil & Gas and Telecommunication industries – 12 and 11 respectively. Generally, these results are predictable as companies from these industries constitute big portion of Russian stock market and are leaders in dividend payments.

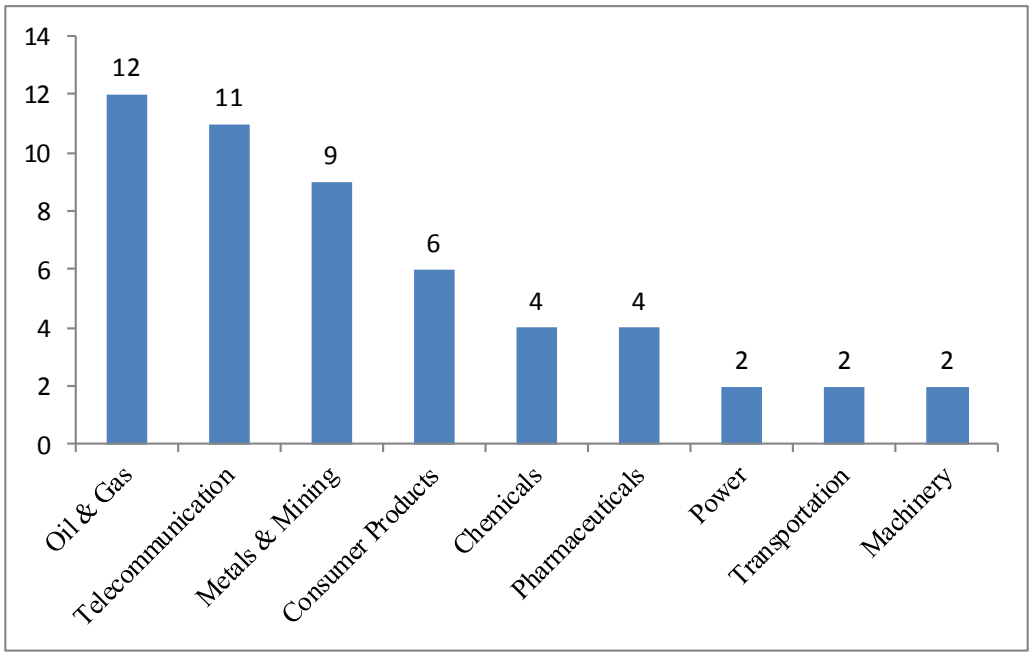

Figure 14 Number of announcements per industry

If we consider share repurchases announcements by year of announcement there was a steady increase in numbers since 2005 to 2008 when there were 9 announcements but then the financial crisis broke that tendency and there were no announcements of repurchases during 2009. As oil prices came to higher levels in 2010 and economy stabilized there was a record number of announcements - 10. After that we observed steady decline in repurchases by public companies.

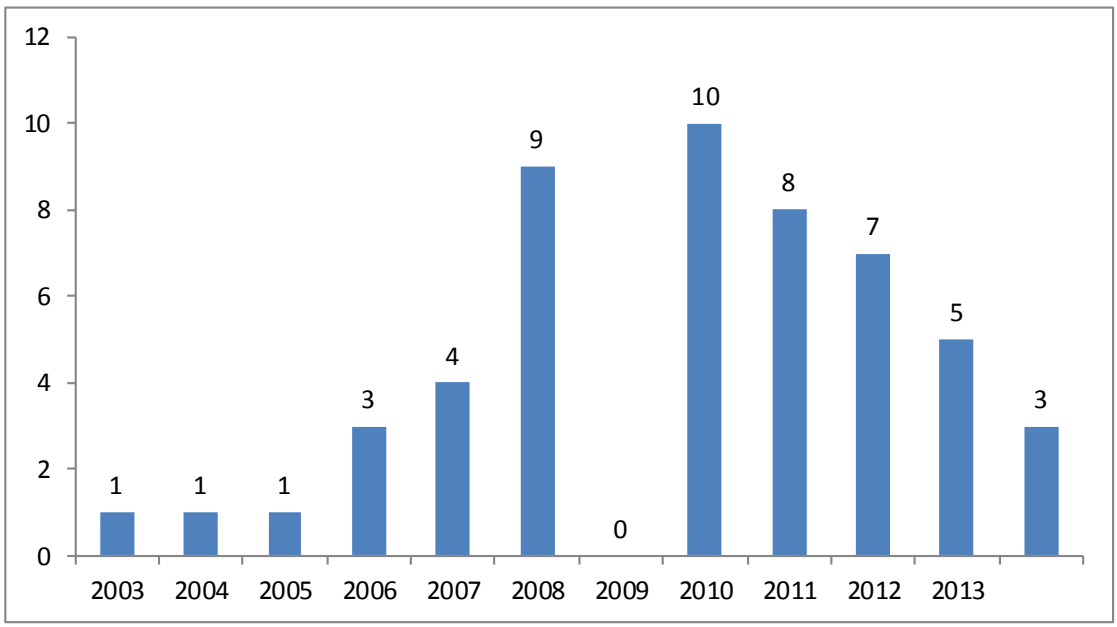

Figure 15 Number of share repurchases announcements per year

Next step is to analyze the frequency of repurchases announced by company. In developed markets some companies repurchase shares several times a year. As there was not a lot of repurchases in Russia the picture is not really representative. Still there are some companies which repurchased shares several times for the period of research. Leaders that repurchased shares several times were GMK Noril'skii Nikel' (4), Farmstandart (4), Lukoil (4) and Rostelekom (3).

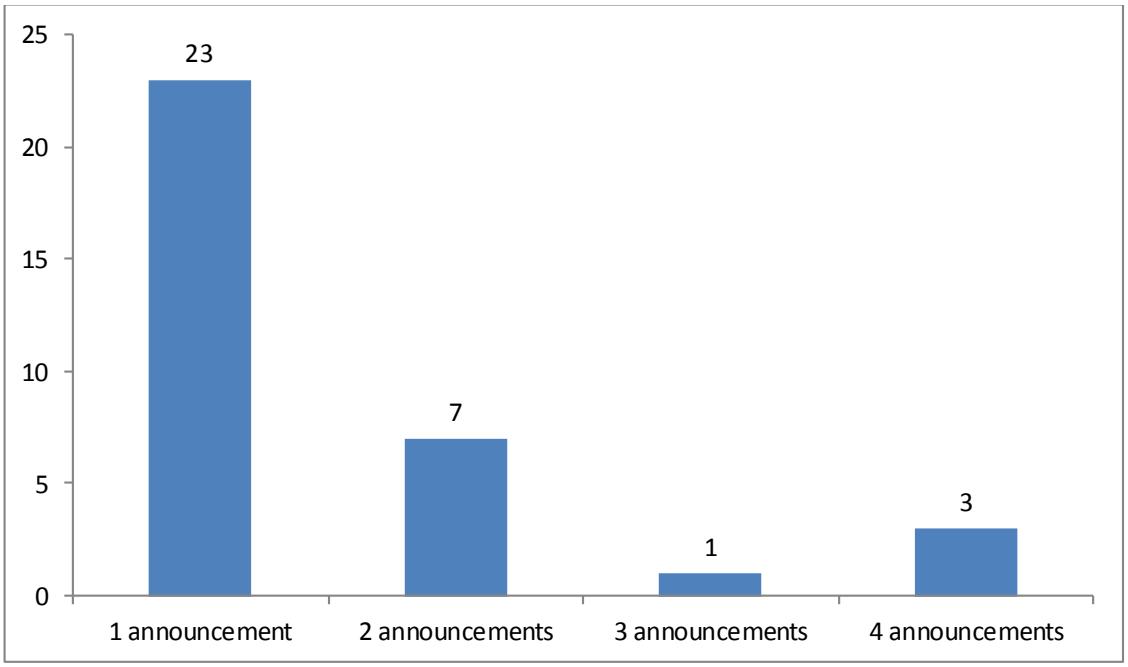

Figure 16. Frequency of announcements by one company

Now let us move to analysis of event study results. In the following table the results of estimation of average abnormal returns (AARs) and cumulative average abnormal returns (CAARs) on the event window of 11 days (-5; +5) are represented below.

Table 1. AAR and CAR for 11 day window (-5; +5)

Day of event window	AAR	Positive : Negative reaction at announcement day	t-value	CAAR	t-value
-5	-0,54%	26:26	-1,1681	-0,54%	-1,1672
-4	-0,16%	29:23	-0,406	-0,70%	-1,5807
-3	0,12%	26:26	0,4404	-0,58%	-1,1626
-2	-0,20%	28:24	-0,4258	-0,78%	-1,1204
-1	0,42%	26:26	0,7932	-0,36%	-0,5605
0	**1,80%**	**35:17**	**4,1184*** **	**1,44%**	**1,9653***
1	0,32%	24:28	0,6053	1,76%	1,8113*
2	0,24%	22:30	0,5021	2,00%	2,2211**
3	-0,54%	20:32	-2,1098*	1,46%	1,6920*
4	-0,10%	20:32	-0,3541	1,36%	1,6032
5	-0,40%	26:26	-1,1449	**0,96%**	**1,1235**

As t-value for AAR on day 0 is greater than critical t-values for 51 degrees of freedom, it can be inferred that AAR at announcement day is significantly different from zero. So there is a statistically significant increase in stock prices at the day of announcement. The magnitude of increase is 1,8% and direction is upwards which provide good evidence confirming the first hypothesis of the research.

Such results are in line with prior event studies of share repurchases announcements, for example, Manconi, Peyer, Vermaelen (2015). But results do not coincide with research on reaction of stock prices on dividend announcements (Teplova (2008, 2011), Rogova, Berdnikova (2014), Berezinets et al. (2015a), Berezinets et al. (2015b)). Though, both repurchases and dividends in theory should provide comparable signals to market.

Visual interpretation of results can be seen below.

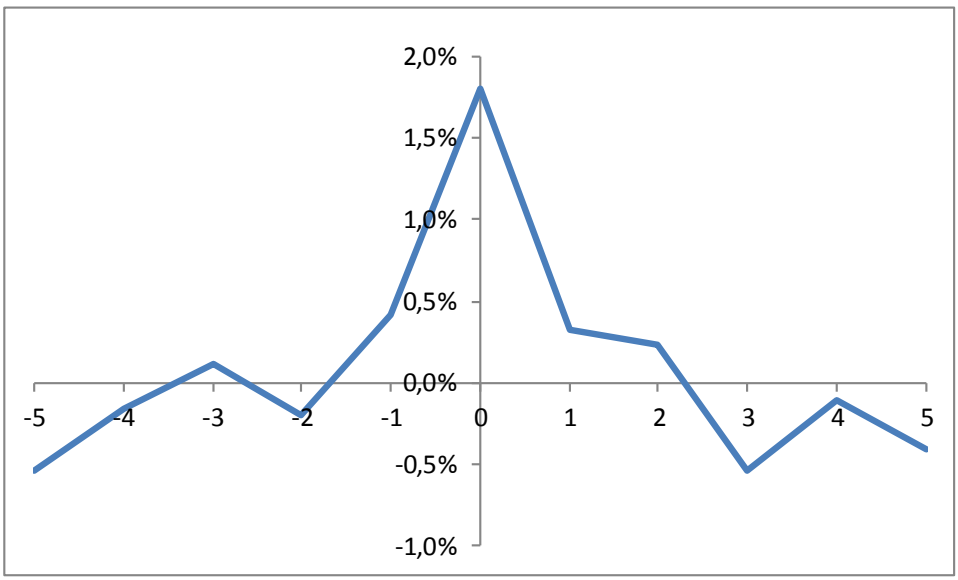

Figure 17 AAR behavior in event window (-5;+5)

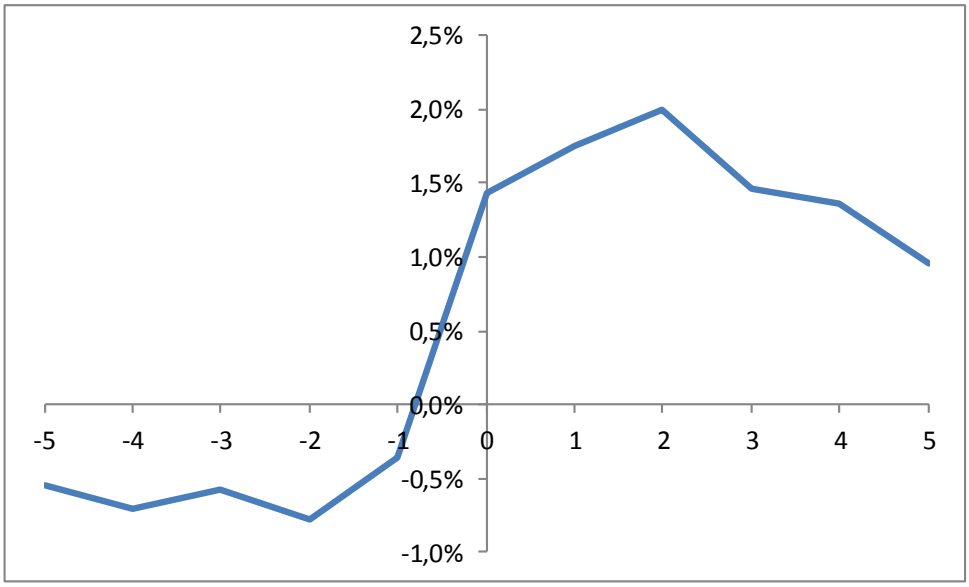

Figure 18 CAAR development in event window (-5; +5)

On graphs above it can be observed that on an announcement day there is a big spike in abnormal return, but then it decrease. The development of CAAR allows saying that in 5 days after the announcements cumulated abnormal return is still in place so it does not die away straight after the announcement. It is also worth to mention that before the announcement on average abnormal return is negative but these results are not statistically significant so we should not draw a lot of attention to them.

Next I will proceed with the second event study with another event window. In the following table the results of estimation of average abnormal returns (AARs) and cumulative average abnormal returns (CAARs) on the event window of 5 days (-2; +2) are represented.

Table 2 AAR and CAR for 5 day window (-2; +2)

Day of event window	AAR	Positive : Negative reaction at announcement day	t-value	CAAR	t-value
-2	-0,20%	28:24	-0,4264	-0,20%	-0,4162
-1	0,43%	26:26	0,8164	0,23%	0,449946
0	**1,81%**	**35:17**	**4,1252*** **	**2,04%**	**3,4585*** **
1	0,3%	23:29	0,5713	2,34%	2,8713***
2	0,24%	24:28	0,5016	**2,58%**	**3,2688*** **

Here results for AARs are statistically significant for the announcement day with the same magnitude of increase which is 1,8% and upwards direction. Moreover, CAARs on all days after event are significant at 1% level which provides best evidence for confirming the first hypothesis of the research. So as CAAR at day 2 is significant we can derive that for this event window share repurchases announcements produce excess returns.

Such results are again in line with prior event studies of share repurchases announcements, for example, Manconi, Peyer, Vermaelen (2015). Moreover, the magnitude of increase in their research for emerging markets also lay in an interval of 2-5%. Results of this estimation again do not coincide with research on reaction of stock prices on dividend announcements (Teplova (2008, 2011), Rogova, Berdnikova (2014), Berezinets et al. (2015a) Berezinets et al. (2015b)).

Below there is a graph interpretation of results.

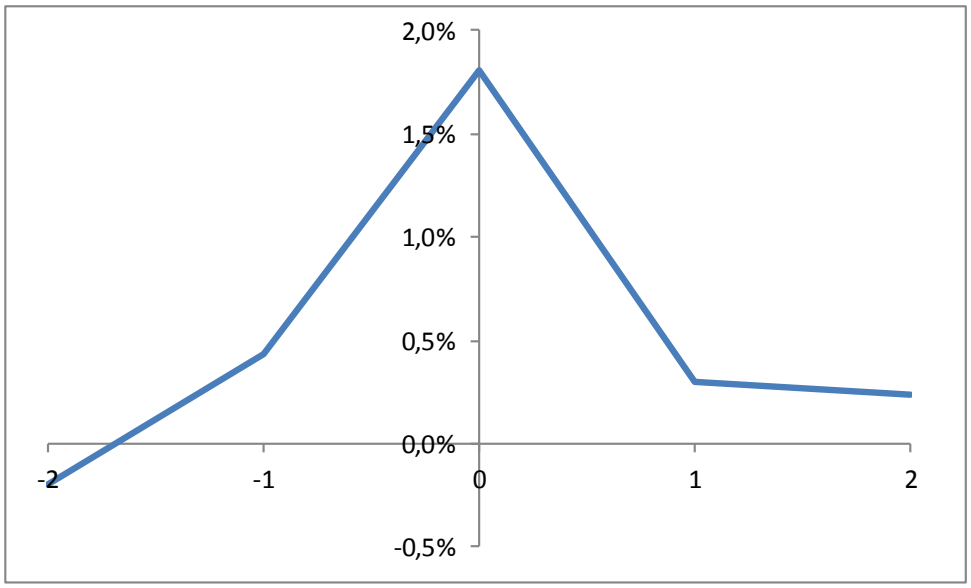

Figure 19 AAR behavior in event window (-2; +2)

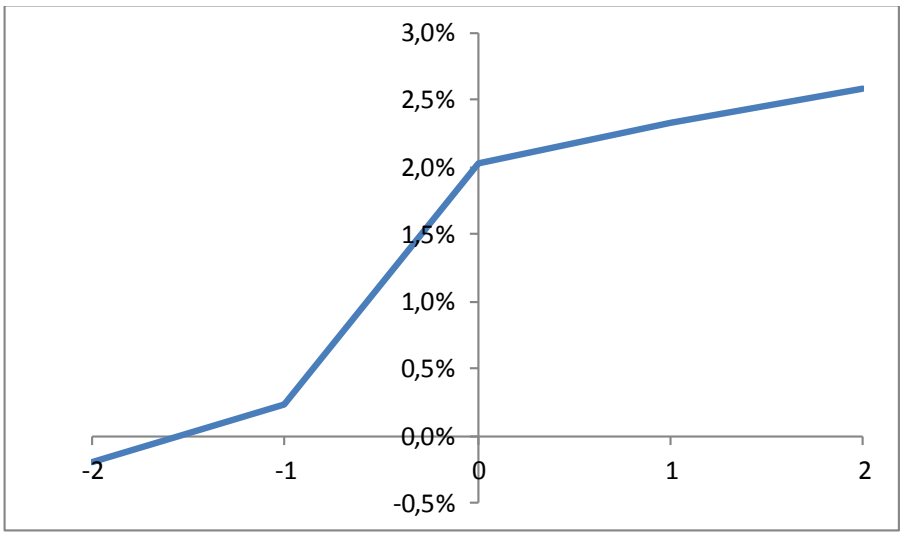

Figure 20 CAAR development in event window (-2; +2)

It can be observed that in a day prior to announcement there is some abnormal return which probably could signal on some insider information coming into market but as it is not statistically significant we cannot derive it.

So to summarize, the first hypothesis is confirmed by analysis and there is short-term excess return attributed to share repurchases announcements.

Now let us move to third, and final, event study which aimed to test the second hypothesis of the research which is about long-term excess return in response to share repurchase announcements. For this event study as an event window one year period after announcement is used and for it buy-and-hold abnormal return (BHAR) methodology is applied. Results of BHARs estimation can be represented on a graph below.

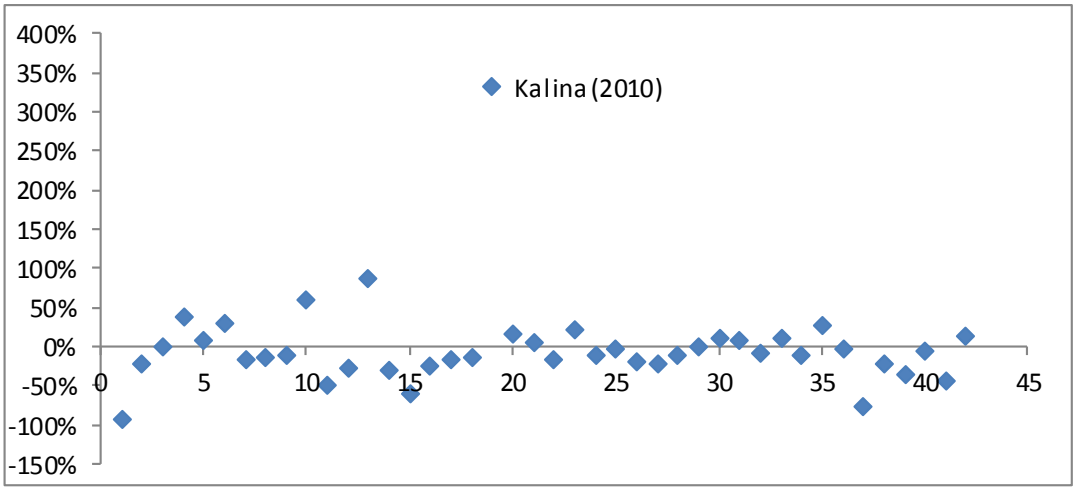

Figure 21 Buy-and-hold abnormal returns for Russian share repurchases announcements

It can be observed that most of estimated values are in an interval between -100% and +100% which represent a two times decrease or increase in stock price in a year after announcement. But on the graph it is seen that there is no clear direction of abnormal returns.

Results of estimation are following - calculated average buy-and-hold abnormal return (ABHAR) which is 0,42% with a t-value equal to 0,044 which is less than critical value (41 degrees of freedom) even at 10% significance level. So we cannot draw any significant conclusion from here.

One interesting observation here: as ABHAR is around zero one could predict nearly equal number of positive and negative BHARs but it is not the case. In the sample, there are 14 positive BHAR versus 28 negative. Hence we can conclude that on average if one-year excess stock performance is positive it is much bigger in magnitude than when performance is negative. This conclusion could be true if there were no outliers, which "pulled" positive returns up, but there indeed was one outlier.

On the Figure 21 there is a clear outlier – Kalina's announcement to repurchase shares. There is a 350% abnormal return, which is attributed to the first proven insider trading case in Russia.[4] So to make analysis more representative I moved this outlier away and once again calculated ABHAR which now was -7,7%. This shows how sensitive the research to standalone events. Results are again not statistically significant as t-value is -1,556 which is less than critical t-value. On the graph below we can see results of estimation more closely.

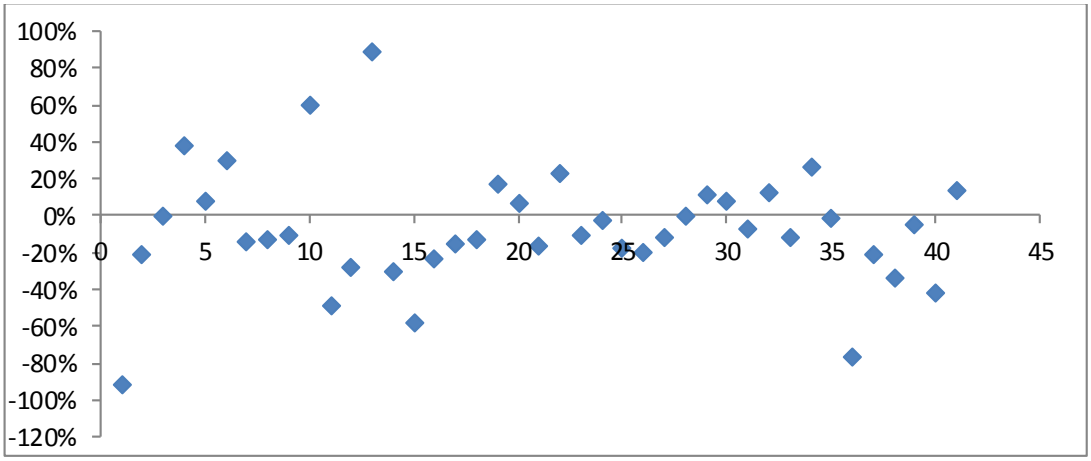

Figure 22 Buy-and-hold abnormal returns for Russian share repurchases announcements (without Kalina)

It can be inferred that there is no evidence to confirm second hypothesis. There are no positive excess returns in a long-term after announcements of share buy-backs. To say more there is negative return in a year after announcement time period but it is not statistically significant. Now I will proceed with the discussion of research results.

[4] FSFR found insider trading with Kalina shares. Source: http://www.vedomosti.ru/business/articles/2013/07/01/fsfr-obnaruzhila-insajd

2.4. Discussion of the results

Results of estimation provided solid evidence for confirming H1. Namely, share repurchases announcements trigger positive excess stock returns in a short term. For the H2 there is not enough evidence that share repurchases announcements trigger positive excess returns in a long term so hypothesis cannot be confirmed.

First of all, results of estimation can be analyzed from the point of view of market efficiency according to Fama (1970). The presence of short-term abnormal returns shows that not all information is included into prices so market is characterized by weak form of informational efficiency. This means that investors can benefit in a short term by trading around an announcement date.

Now let us discuss results of short-term event study. Results of estimation are in line with a branch of country-specific research analyzed in Chapter 1 and the most recent and profound international research by Manconi, Peyer, Vermaelen (2015). They observed the period from 1998 to 2010 while in my research for Russian market 2003-2015 period was used. Comparison of CARs for the event window (-2; +2) is showed in the following table. In their research there are 32 countries but here I provide estimations mostly of emerging markets because their reaction is more comparable with Russian one.

Table 3 Comparison of CAR at the event window (-2; +2)

Nation	CAR (-2; +2), %	Nation	CAR (-2; +2), %
Global Non-U.S.	1.59***	India	2.63***
United States	2.11***	Philippines	4.15***
Brazil	0.57	Thailand	3.34***
Australia	2.39***	Germany	3.03***
China	3.28***	**Russia (this research)**	**2,58*** **

Source: Buybacks around the World. Manconi Alberto, Peyer Urs, Vermaelen Theo. INSEAD Working Paper 2013/101/FIN

From the table above it could be clearly seen that Russian market reaction to share repurchases announcements in short-term is completely in line with other markets for comparable time periods. So predictions of signaling theory are in place. Basically, announcements indeed trigger positive excess returns. This evidence confirms that buybacks announcements are a signal of good companies' current earnings and prospects.

But the main peculiarity here is that dividend increases and dividends higher than expected (positive surprises) on the Russian market trigger negative excess returns as documented by Teplova (2008, 2011), Berezinets et al. (2015a), Rogova, Berdnikova (2014) and

Berezinets et al. (2015b). Theoretically, both dividends and repurchases represent distribution of earnings so expected reaction should be in the same direction. Below I will try to reconcile this opposite findings.

First of all, let us look to the very nature of these two forms of payouts. In the case of cash dividends, primary reason for paying cash is to distribute money to shareholders. For repurchases this motive is one of the most important but there are also other motives which could be seen as signals and hence trigger positive abnormal returns. These motives could be: removing undervaluation, fighting against hostile takeovers, altering ownership structure and voting rights, development of stock option plans and others. For cash dividends these motives are not applicable so these additional factors could help to explain differences in results on Russian market.

Secondly, cash dividends are usually consecutive events which happen from year to year and companies are not prone to change dividend policies a lot – dividend smoothing. This means that dividend-paying stocks at announcement of dividends are usually already in investors' portfolios because they expect dividends so there is less trading with these stocks on announcement days. To say more, market expects some level of dividends so prices can already reflect expected dividends. The situation is opposite with repurchases. As they represent standalone unexpected events when information comes into the market investors are rushing to buy stock at lower price creating excess demand and hence excess returns.

Third possible explanation of different direction of reaction to positive dividend events and repurchase announcements is difference in applied methodology, especially event windows. Teplova (2008) and Berezinets et al. (2015a) used (-10; +10) windows and Berezinets et al. (2015b) and Rogova, Berdnikova (2014) used (-5; +5) event windows. In my research larger (-5; +5) event window showed lower cumulative average abnormal return and also not significant one compared to (-2; +2). This can be attributed to under reaction of "event stock" before the event and so longer window accumulate more negative returns. After the event in a 5 or 10 days period average abnormal returns start to decline quite fast and after becoming negative obviously decrease CAAR.

One more way to discuss results is to look at economic crisis of 2008 influence on abnormal returns by firms which announced repurchases. Hypothesis here is as follows: after the crisis abnormal returns should be lower than before it as repurchases can signal the lack of profitable investment opportunities in the growing after crisis Russian economy. And on the Russian market there is solid underlying evidence for that as Berezinets et al. (2015a, 2015b) showed negative reaction to dividend increases and surprises after crisis and provided a possible

explanation for this: signal associated with lack of investment opportunities. But the check of share repurchases announcements before and after crisis show opposite evidence which is presented in the following table. A precaution here is that samples are even smaller than in the main part of analysis (19 – before crisis and 33 – after it) so generalization is questionable.

Table 4 Cumulative average abnormal returns before and after crisis at the event window (-2; +2)

Time period	CAAR (%)	Positive : Negative reaction on announcement day
Before crisis (2003 – 2008)	1,24	10:9
After crisis (2010 – 2014)	3,36***	23:10

Stocks of companies which announced repurchases after crisis showed 3,36% excess returns over 5 days around return. Evidence showed that we cannot confirm our hypothesis as average short term reaction after crisis is much higher than before it and is statistically significant. It is worth to mention that before-crisis results are not statistically significant. So market participants do not see repurchases announcement as a lack of investment opportunities opposed to dividends. This peculiarity could be explained by the following fact. Dividends usually reflect a distribution of stable cash flows while repurchases as a more flexible tool is more often used for impermanent cash flows. So increasing dividends signal investors that portion of cash flow which is stable is growing and hence the risk associated with the stock is increasing which can be not appropriate for some investors and she decides to sell the stock putting pressure on the price. This is basically the notion of increasing risk hypothesis (Grullon, Michaely and Swaminathan (2002)) which was analyzed in Chapter 1. At the same time using repurchases does not produce a signal of increasing risk but instead a signal that temporary cash flows were good in this period. Also omitting of repurchase announcement is not perceived as a bad event. And what is more important repurchases announcements are not obligations to pay so it is quite cheap market signal as not all companies usually complete announced repurchases.

Above there is evidence conflicting with results of researchers on the Russian market with regard to dividends. But there is one point which can be interpreted as a close one with Berezinets et al. (2015a, 2015b) conclusions. Smaller than after crisis announcement returns and its' insignificance before crisis can be an evidence of bad signal to the market. So as economy and Russian stock market grew at a good pace before crisis repurchases could have been seen by investors as a signal of decreasing growth perspectives or lack of investments opportunities.

If we analyze long-term event-study measuring buy-and-hold abnormal returns in a year period after announcement, we can see that all initial excess market reaction die away.

First, I have to mention that results are statistically insignificant so solid inference is not really possible. But based on the previous research it could be inferred that the key factor influencing long-term returns is governance (overall country level of governance, legal system and company-specific governance). Some reports and researchers (Black, Love, Rachinsky (2006), KPMG (2013)) mentioned low level of corporate governance in Russia. So this could be a plausible explanation of abnormal returns around zero and even negative if adjusting dataset for outliers.

Now let us move to possible managerial and research implications of the research.

2.5. Managerial and research implications

In this section I will first show implications for different stakeholder groups, then provide limitations of this research and finally move to perspective venues for further research.

There are two main groups of market participants who can be interested in the research findings: corporate managers and investors.

Managers. In theory of finance companies are eager to increase shareholder value. It can be done by two vehicles: increasing capital gains which can be obtained by investor through market capitalization rise and paying out left after investments cash flow. These two vehicles are connected by signaling theory stating that announcements on payout in forms of dividends and repurchases can trigger positive excess returns. So before making such announcements companies' financial managers should take into account market expectations on direction and magnitude of changes. In the Russian market there is on average a positive reaction on announcements in a short term period so managers can deal with equity underpricing by announcing repurchases. Important to mention that there is no commitment to repurchase shares after that so signal is quite cheap compared to dividends. But this measure can be considered as only a short-term one because in a longer perspective stock market performance of companies announced repurchases is at best like the market or even worse.

There are also other than signaling motives of repurchases which can be relevant for managers of Russian public companies. First of all, by repurchasing shares can increase EPS as number of outstanding shares decreases. This motive is proven to be one of the main concerns of managers in the developed markets as they want to meet analysts' expectations. Secondly, repurchasing shares can help to remove low valuation stockholders. So investors who value company at least will sell their shares if there is an opportunity to do it and hence ownership will be held by investors with higher valuation which generally reflects trust in management and company's perspectives. Third notion for managers is in line with a previous one – by repurchases managers can change to some extent ownership structure so that remained investors

are more lenient to managers. Fourth reason is to prevent company from hostile takeover – usually during economic downturn there is an increasing consolidation which can take aggressive forms. So if managers know about the mechanism of share repurchases and how it can be exercises they can in a fast manner protect themselves. Fifth argument which is very relevant for Russian market is increasing liquidity with repurchases announcements. As for the most of Russian stocks there is low liquidity managers can draw attention to the stock by announcing a repurchase. So investors will analyze company more precisely and probably trade its' stocks more often.

Now let me move to a broader context of payout policy in general and look into problem of choice between dividends and repurchases. For managers of dividend-paying companies there are several implications of the research. First, it is worth to distribute stable cash flows as dividends and temporary ones with share repurchases. Repurchases do not create a commitment to sustain minimum level of payout so provide management with flexibility. Secondly, there is no big need in increasing dividends as on average market see this event as bad news and stock prices perform worse than the market. It can be associated with either market perceptions of company's risk increase or lack of positive investment projects. Oppositely, using share repurchases produces positive signal – price increase at announcement day equals on avearge to 1,8%. It is especially evident after 2008 crisis with average reaction of 2,18% at announcement. For managers of companies' not paying dividends research suggest that on a Russian market repurchases can be seen as a superior to dividends way to intimate pay out. Dividends create a long-term commitment – not a legal one but an expected by market. Because of that managers need to maintain some level of dividends. Repurchases do not create investors' expectations about payout so provide management with flexible payout tool. Moreover, repurchases announcements help to deal with market underpricing for a short term period.

Majority shareholders' main concern is to reduce agency problem so that managers create value for them. Researchers showed that dividends are better to deal with this role as they represent a stronger commitment. But at the same time repurchases can also be effectively used by shareholders to align managers' incentives with value creation. It can be done by incorporating stocks in management compensations. Generally, the more shares are in hands of management, the more they care about shareholders' needs. Signaling here is an issue of second consideration but to increase value in a short term shareholders can push managers to repurchase which is on average viewed positively by Russian market participants. In a longer-term this does not hold as one-year performance is at best as the market.

Speculative investors. Announcements of share repurchases in Russian market produce short-term excess returns on a day of announcement and one-two days after it. So it can be a good short-term trading idea for speculators. Especially important here is to capture information as soon as possible. Excess returns on average are quite high – around 2% more than a market at an announcement day. As a long-term buy-and-hold strategy companies which announced repurchases are not good candidates for the portfolio as performance is not superior to that of the market and can even be worse. Now let me move to limitations of this research. There are two general limitations. First of all, the dataset of Russian share repurchases is very small – not even a hundred of those appropriate for analysis while most of international researchers operate with thousands of announcements. Second one is that for a long-term event study there was no enough data to use a specification of buy-and-hold methodology used by most international scholars. Generally, this methodology implies dividing events by size and book-to-market values into several groups and creating benchmark portfolios (not announced repurchases) for each of them. But in the Russian market there were not enough liquid stocks with reported stock prices to perform such type of analysis.

As for the main contribution of this research it is worth to mention that to my best knowledge quantitative analysis of Russian share repurchases was not conducted and documented in previous literature. Moreover, now scholars could analyze and further complete a hand-collected dataset of Russian share repurchases. This also allows investigating following research areas. First of all, more attention could be drawn to reconciliation of this research's findings with findings on Russian stock market reaction to various dividend events. Secondly, factors influencing share repurchases abnormal returns in Russian market could be evaluated using cross-sectional regression. Here firm-level governance could become a factor with the most explanatory power in line with international evidence. Thirdly, the reasons for Russian companies to repurchase shares could be analyzed. Here the most promising method is a survey or interview with CFOs of Russian corporations. Fourth venue for the research is to analyze a substitution of dividends with repurchases. Especially, to realize when share repurchases are more suitable and what payout mix of dividends and repurchases should companies use. This can be analyzed from both strategic perspectives for different industries and also from operational point of view by taking one or several companies and creating a model helping to choose which portion of profits should be distributed which each vehicle: dividends and repurchases.

Conclusion

Russian market is different from developed and from other emerging markets. This master thesis research was conducted with a goal to estimate reaction of Russian market stocks on share repurchases announcements.

In the research the following objectives were achieved. First of all, I systematized and analyzed theoretical concepts of payout policies. The most solid evidence for explaining determinants of payout policy are derived from agency theory which generally states that payout policy is an effective treatment for solving agency conflicts. At the same time there is profound evidence for signaling theory stating that there is positive reaction to payout policy events – share repurchases and dividends announcements. Moreover, analysis of trends in payout policy showed that over the last 30 years more and more companies used share repurchases in their payout policies. This fact has attracted researchers to this topic. Share repurchases has several important advantages such as dealing with equity mispricing, preventing hostile takeovers, altering voting rights and ownership structure, increasing EPS and others. As for equity mispricing repurchases announcements signal the quality of the firm and usually trigger positive excess returns in a short time period and in a long term perspective. Thirdly, an analysis of specific Russian market context was performed. It showed that market is quite small, liquidity and levels of corporate are quite low, concentration of ownership is high which implies that not a lot of companies are ready to repurchase shares.

But a dataset of Russian companies which announced repurchases turned out to consist of 52 events which is a size appropriate for an analysis with event study methodology. Short-term event study on different event windows showed results completely in line with international evidence. In Russia there is a significantly positive short-term excess stock returns reaction to repurchase announcements. The magnitude is comparable with other emerging markets. Long-term event study showed that performance following share repurchases is at best like the market but could be even worse. International research allows to suppose that it can be explained by low level of corporate governance but testing this hypothesis is out of scope of this research. Generally long-term event study results are statistically insignificant so no generalization can be done here.

Results of this research were opposite to results achieved by other scholars who evaluated stock market reaction to dividends changes in the Russian market while theoretically they are usually in line. So an extended analysis was performed to reconcile this peculiarity. It can be explained by several reasons. First of all, dividends are only payout policy events while

repurchases can have additional underlying motives. Secondly, repurchases are standalone events while dividends are consecutive influencing investors' perception. Thirdly, even though event study methodology was applied in all researches, there are some different estimation techniques inside. Fourth point is different consequences for managers: while dividends produce commitment, repurchases do not and are considered to be more flexible.

Last point of the research is providing recommendations to different types of stakeholders of Russian companies. Managers can effectively signal the market in a short term period which can help them to deal with equity mispricing. Other advantages of repurchases can be useful to prevent hostile takeovers, alter voting rights, increase EPS and increase market liquidity. For major shareholders repurchases can help to align management incentives with their owns' as there agency conflict is usually less intense when management holds company's stocks. For speculators repurchases can be a good short-term trading idea especially, if they get information about a repurchase as soon as possible. Buy-and-hold strategy cannot be viewed as a superior one compared to the market.

This research can serve as a basis for future research of share repurchases in Russian context. Especially, in the areas of corporate governance influence on abnormal returns and repurchases decisions in general. Other venues for research are reconciliation of presented evidence with regards to signaling theory with Russian scholars and the non-trivial issue of substitution of dividends and repurchases.

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Appendix 1. Sample of Russian companies announced repurchases and analyzed for short-term effect of announcement on stock returns.

Date Announced	**Company name**	**Company ticker on MOEX**	**Company Industry**	**Status**
14.10.2014	Dorogobuzh	DGBZ	Chemicals	Announced
23.03.2014	Bashneft	BANE	Oil & Gas	Pending
19.02.2014	Rostelekom	RTKM	Telecommunications	Announced
13.11.2013	Farmstandart	PHST	Pharmaceuticals	Announced
04.07.2013	Rostelekom	RTKM	Telecommunications	Completed
18.06.2013	Mechel	MTLR	Metals & Mining	Intended
15.02.2013	Farmstandart	PHST	Pharmaceuticals	Completed
11.01.2013	Sinergiya	SYNG	Consumer Products	Completed
13.11.2012	Uralkali	URKA	Chemicals	Pending
29.02.2012	Severstal'	CHMF	Metals & Mining	Completed
29.05.2012	Lukoil	LKOH	Oil & Gas	No data
09.06.2012	Farmstandart	PHST	Pharmaceuticals	Completed
07.06.2012	Novatek	NVTK	Oil & Gas	Pending
16.03.2012	OGK-1	OGKA	Power	Completed
28.02.2012	Rosneft'	ROSN	Oil & Gas	Completed
16.11.2011	Raspadskaya	RASP	Metals & Mining	Announced
31.10.2011	Rostelekom	RTKM	Telecommunications	Completed
07.10.2011	Uralkali	URKA	Chemicals	Intended
13.09.2011	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Completed
28.04.2011	Baltika	PKBA	Consumer Products	Completed
19.04.2011	Rosneft'	ROSN	Oil & Gas	Announced
11.02.2011	Komstar-OTS	CMST	Telecommunications	Completed
18.01.2011	Farmstandart	PHST	Pharmaceuticals	Completed
29.12.2010	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Pending
17.12.2010	Novorossiiskii Morskoi Torgovyi Port	NMTP	Transportation	Completed
22.11.2010	Kalina	KLNA	Consumer Products	Completed
03.11.2010	Akron	AKRN	Chemicals	Intended
12.08.2010	Uralsvyaz'inform	URSI	Telecommunications	Intended

12.05.2010	VolgaTelekom	VTEL	Telecommunications	Completed
10.08.2010	SZT	SPTL	Telecommunications	Intended
28.07.2010	Lukoil	LKOH	Oil & Gas	Completed
23.04.2010	Sibir'telekom	STKM	Telecommunications	Completed
28.06.2010	Dalsvyaz’	DLSV	Telecommunications	Completed
09.06.2008	Diksi	DIXY	Consumer Products	Completed
18.09.2008	Aeroflot	AFLT	Transportation	No data
16.09.2008	Lukoil	LKOH	Oil & Gas	No data
16.09.2008	Severstal'	CHMF	Metals & Mining	No data
28.08.2008	MTS	MTSS	Telecommunications	Completed
22.08.2008	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Completed
01.04.2008	Lebedyanskii	LBDO	Consumer Products	Announced
11.02.2008	Novatek	NVTK	Oil & Gas	No data
04.02.2008	Gazprom	GAZP	Oil & Gas	Completed
06.08.2007	Kamaz	KMAZ	Machinery	Completed
17.10.2007	Baltika	PKBA	Consumer Products	Completed
30.09.2007	MTS	MTSS	Telecommunications	Completed
05.04.2007	Avtovaz	AVAZ	Machinery	Completed
05.10.2006	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Intended
28.06.2006	Lukoil	LKOH	Oil & Gas	Announced
05.04.2006	Surgutneftegaz	SNGS	Oil & Gas	Announced
21.04.2005	Mikhailovskii GOK	MGOK	Metals & Mining	Completed
28.04.2004	Mosenergo	MSNG	Power	Completed
12.08.2003	Surgutneftegaz	SNGS	Oil & Gas	Completed

Appendix 2. Sample of Russian companies announced repurchases and analyzed for long-term effect of announcement on stock returns.

Date Announced	**Company name**	**Company ticker on MOEX**	**Company Industry**	**Status**
14.10.2014	Dorogobuzh	DGBZ	Chemicals	Announced
23.03.2014	Bashneft	BANE	Oil & Gas	Pending
19.02.2014	Rostelekom	RTKM	Telecommunications	Announced
13.11.2013	Farmstandart	PHST	Pharmaceuticals	Announced
04.07.2013	Rostelekom	RTKM	Telecommunications	Completed
18.06.2013	Mechel	MTLR	Metals & Mining	Intended
15.02.2013	Farmstandart	PHST	Pharmaceuticals	Completed
11.01.2013	Sinergiya	SYNG	Consumer Products	Completed
13.11.2012	Uralkali	URKA	Chemicals	Pending
29.02.2012	Severstal'	CHMF	Metals & Mining	Completed
29.05.2012	Lukoil	LKOH	Oil & Gas	No data
09.06.2012	Farmstandart	PHST	Pharmaceuticals	Completed
07.06.2012	Novatek	NVTK	Oil & Gas	Pending
28.02.2012	Rosneft'	ROSN	Oil & Gas	Completed
16.11.2011	Raspadskaya	RASP	Metals & Mining	Announced
31.10.2011	Rostelekom	RTKM	Telecommunications	Completed
07.10.2011	Uralkali	URKA	Chemicals	Intended
13.09.2011	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Completed
28.04.2011	Baltika	PKBA	Consumer Products	Completed
19.04.2011	Rosneft'	ROSN	Oil & Gas	Announced
18.01.2011	Farmstandart	PHST	Pharmaceuticals	Completed
29.12.2010	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Pending
17.12.2010	Novorossiiskii Morskoi Torgovyi Port	NMTP	Transportation	Completed
22.11.2010	Kalina	KLNA	Consumer Products	Completed
03.11.2010	Akron	AKRN	Chemicals	Intended
28.07.2010	Lukoil	LKOH	Oil & Gas	Completed
09.06.2008	Diksi	DIXY	Consumer Products	Completed
18.09.2008	Aeroflot	AFLT	Transportation	No data

16.09.2008	Lukoil	LKOH	Oil & Gas	No data
16.09.2008	Severstal'	CHMF	Metals & Mining	No data
28.08.2008	MTS	MTSS	Telecommunications	Completed
22.08.2008	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Completed
01.04.2008	Lebedyanskii	LBDO	Consumer Products	Announced
11.02.2008	Novatek	NVTK	Oil & Gas	No data
04.02.2008	Gazprom	GAZP	Oil & Gas	Completed
06.08.2007	Kamaz	KMAZ	Machinery	Completed
17.10.2007	Baltika	PKBA	Consumer Products	Completed
30.09.2007	MTS	MTSS	Telecommunications	Completed
05.10.2006	GMK Noril'skii Nikel'	GMKN	Metals & Mining	Intended
28.06.2006	Lukoil	LKOH	Oil & Gas	Announced
05.04.2006	Surgutneftegaz	SNGS	Oil & Gas	Announced
21.04.2005	Mikhailovskii GOK	MGOK	Metals & Mining	Completed