St. Petersburg University
Graduate School of Management

Master in Corporate Finance

EARNINGS MANAGEMENT BY COMPANIES AROUND STOCK ISSUANCES

Master's Thesis by the 2nd year student Grigrorev Victor

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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ВЫПОЛНЕНИИ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

Я, Григорьев Виктор Игоревич, студент второго курса магистратуры направления «Менеджмент», заявляю, что в моей магистерской диссертации на тему «Манипулирование прибылью компаниями при эмиссии акций», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

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_____ (Подпись)

04 Июня 2020 года (Дата)

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04 June 2020 (Date)

АННОТАЦИЯ

Автор	Григорьев Виктор Игоревич
Название ВКР	Манипулирование прибылью компаниями при эмиссии акций
Образовательная программа	Корпоративные финансы
Направление подготовки	Менеджмент
Год	2020
Научный руководитель	Никулин Егор Дмитриевич
Описание цели, задач и основных результатов	Актуальность нашей работы заключается в том, что Манипулирование Прибылью является ценным инструментом для различных нужд компании. Это особенно важно в процессе IPO, так как Манипулирование Прибылью позволяет влиять на восприятие компании рынком для получения более высокого финансирования. Основная цель нашей работы состояла в том, чтобы доказать существование положительного (upwards) Манипулирования Прибылью в российских фирмах в период IPO. Кроме того, в ходе обзора литературы мы выявили два дополнительных аспекта, которые впоследствии были проанализированы: влияние иностранного листинга и влияние государственного контроля на Манипулирование Прибылью российских компаний в период IPO. Тема Манипулирования Прибылью не имеет широкого освещения ни для развивающихся рынков, ни для России в целом, что делает нашу работу ценной и оправдывает выбор российского рынка для исследования. Наша работа также использует анализ Реального Манипулирования Прибылью и проводится на основе ежеквартальных данных, что не так часто используется в большинстве исследований в этой сфере.

	В нашей работе мы проанализировали релевантную литературу, сосредоточившись на нескольких статьях для развивающихся стран, собрали все необходимые данные, рассчитали модели для оценки уровня Манипулирования Прибылью и проанализировали результаты. В итоге мы подтвердили, что российские фирмы, как правило, занимаются Манипулированием Прибылью по Методу Начислений (Accrual Based Earnings Management) в период IPO. В то же время мы не нашли никаких доказательств того, что в процессе IPO осуществляется крупное Реальное Манипулирование Прибылью. Мы подтвердили, что российские фирмы, осуществляющие листинг внутри страны, в большей степени занимаются Манипулированием Прибылью, по сравнению с фирмами, которые осуществляют листинг на зарубежном рынке. Мы не обнаружили никаких признаков важности государственного контроля для уровней Манипулирования Прибылью в период IPO. Наши результаты применимы для широкого круга лиц – по большей части для инвесторов, финансовых аналитиков и российских компаний, рассматривающих возможность IPO.
Ключевые слова	Манипулирование Прибылью, Российские Компании, Первичные Размещения Акций, Финансовый Рынок

ABSTRACT

Master Student's Name	Grigorev Victor
Master Thesis Title	Earnings management by companies around stock issuances
Educational Program	Master in Corporate Finance - MCF
Main field of study	Management
Year	2020
Academic Advisor's Name	Egor D. Nikulin
Description of the goal, tasks and main results	The relevance of our paper is explained by the fact that Earnings Management is a valuable tool for different needs of the company. It is especially important in the process of IPO, as it allows to influence the perception of the market to get higher funding. The main goal of our paper was to prove the existence of upwards Earnings Management in Russian firms around IPO. Additionally, during the literature review we established two additional aspects that we later analyzed: influence of foreign listing and influence of the state control on Earnings Management in Russian firms around IPO. The topic of Earnings Management is not widely covered for the emerging markets and for Russia as an extension, which makes our work valuable and justifies the choice of Russian market for the analysis. Our work also employs the analysis of Real Earnings Management and is done on quarterly data which are not employed in the common body of research. In our research we analyzed related literature, concentrating on the few articles for the developing countries, collected all the necessary data, ran the models for assessing Earnings Management levels and analyzed the results. As a result, we confirmed that the Russian firms tend to be engaged in Accrual Based Earnings Management around IPO. At the same time, we found no proof of major Real Earnings Management in

	the process of IPO. We confirmed that Russian firms listing domestically are engaged in Earnings Management to a larger extent, compared to those listing abroad. We did not find any signs of state control importance for the Earnings Management levels around IPO. Our results are applicable for wide range of users, mainly for investors, financial analysts and the Russian companies considering the IPO.
Keywords	Earnings Management, Russian Companies, Initial Public Offerings, Financial Market

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INTRODUCTION

In our research we are interested in finding out whether the Russian firms are influenced to change their Earnings Management by the IPO prospect. The Earnings Management is a major part of firms' activities and represents a valuable lever to achieve a variety of company needs. It specifically influences the market perception, how the firm is viewed by investors, media, clients, partners and a variety of other different actors. Through Earnings Management the firm can target a specific time period where it needs to change the perception of the market players. And what better time to influence the market than the time around the IPO. By presenting better performances the companies can show that they are more profitable and thus can acquire higher investments from the IPO. But what is good for the company, is not necessarily so for other market players. In a sense, they bought the product, that is not what they hoped it was. If they knew that the company managed its earnings to show better results for a certain period, they might have provided less money for a share in such a company or not engage with it at all. But these players don't know whether the firms are engaged in Earnings Management. Our paper will show whether the Earnings Management in Russian firms is naturally increased by the fact of the IPO's proximity. This in turn will show the market players, should they naturally expect from Russian firm to have abnormal profits around the time of IPO or not.

Although the Earnings Management has other uses, for example more internal ones, such as tax manipulations, in this research we will concentrate on the outside influence of earning management as is naturally assumed around IPO. Existing articles in this sphere concentrate mostly on the developed markets, such as United States of America or United Kingdom. The number of works dedicated to emerging markets is quite limited, and even fewer are dedicated to Russian Federation. That naturally leads us to believe that there exists the research gap, that we aim to fill with our paper. The major paper, that covers this research gap was written in 2019 by the Associate Professor of GSOM Egor D. Nikulin (Nikulin and Sviridov 2019). Nevertheless, our work has some differences in comparison. First, in addition to analyzing Accrual Based Earnings Management, we are also trying to see the levels of Real Earnings Management exhibited by Russian companies around IPO. This gap was not covered before, as the Real Earnings Management is a relatively new topic in the research sphere and especially for the papers, dedicated to the emerging markets, such as Russian one. Secondly, we analyze a quarterly data, compared to the yearly one, used in most researches, including the one written by Nikulin (Nikulin and Sviridov 2019). In addition to that we have another dataset – we employ a different time period and hence include different firms in it. These differences and the fact of the overall low coverage of this topic in Russia leads us to believe that our research is related to the existing research gap.

Our main goal is to prove the existence of upwards Earnings Management in Russian firms around IPO. Even though the contrary results will also be accepted as viable outcomes, we strongly believe that the Earnings Management levels will indeed be positive. These expectations are related to the findings in other emerging markets and we believe that those results can be extrapolated for the Russian case. At the same time, we want to also analyze the Earnings Management around IPO more in depth. Specifically, we aim at better classifying the companies in question to provide more practical results, as the analysts will be able to better predict the levels of Earnings Management for the particular company they are analyzing. The specific characteristics by which we are going to split the companies will be decided upon during the literature review, as the insights provided by other authors will help us to better see the trends in Earnings Management around IPO.

To better keep track of all the required aspects of our research we created the following list of objectives:

1) Analyze different definitions of the term Earnings management and choose the one that we are going to use in our research;
2) Understand how to measure the Earnings Management and which is the most suitable way for that in our case;
3) Gather insights and formulate hypotheses through researching the works of other authors;
4) Formulate the list of needed variables and gather the data;
5) Conduct econometric analysis and collect the residuals, that serve as a proxy of Earnings Management;
6) Analyze the results of econometric analysis - confirm or deny hypotheses, provide explanations for the results and discuss possible problems with them;
7) Underline further ways of research activity.

CHAPTER 1. THEORETICAL BACKGROUND OF EARNINGS MANAGEMENT

This chapter is dedicated to reviewing the researches dedicated to Earnings Management – what it is, what is it connected to and how to analyze it. We should address that papers dedicated to Earnings Management are quite established, but they mostly concern the developed market, while our research is concentrated on the Russian market. This way we need to take into account that not all of the conclusions are applied to the situation in Russian Federation to the same degree.

1.1 Definition and types of Earnings Management

First of all, we should define what Earnings Management exactly means. This is not only aimed at those readers that do not know what Earnings Management means but also to better define the direction and aims of our research as the notions behind this term vary depending on the goals of the author.

As noted by the Beneish (2001) in "Earnings Management: A Perspective", there is no direct consensus on the definition of Earnings Management between the researchers, it can have a number of different definitions (Verbruggen, Christiaens, and Milis 2008) and there is no right way of defining it. It is noted that Earnings Management definitions often change according to the aims of each particular author. In our work we will do the same -through the analysis of existing definitions in the literature we will come up with the one, that is most suitable for the topic of our research. We believe that thorough investigation of different ways of how the authors define the Earnings Management will also help us better understand different aspects of this phenomena, that we can later use to better establish our models and to more effectively assess the results of our analysis.

In the part of the book (McKee 2005) concerning the problems related to Earnings Management there exists the definition that states that Earnings Management is "reasonable and legal management decision making and reporting intended to achieve stable and predictable financial results." The author specifically points out that frauds and illegal activities that manipulate with financial results are not considered to be a part of Earnings Management. This definition concentrates on the income smoothing techniques and not on the period-specific influences on the market players.

In one of the older works, Schipper (1989) concentrates more on the aim of Earnings Management. She describes it as an act of purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain. This definition relies on the external influence of earnings manipulation – how it serves as an influence on economic agents

outside the firm. This is majorly close to the theme of our work – financial market relationships – and thus the parts of this definition are going to be used extensively in our research. At the same time, the "private gain" in our case should not be connected to just the managerial compensations and rather to the benefit of the company as a whole.

Davidson, Stickney and Weil (1987) defined Earnings Management as "the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings." This definition is similar to the book (McKee 2005)), but concentrates on obtaining desirable reported earnings rather than stable and predictable financial results, thus including some opportunistic motives. It also underlines that Earnings Management are conducted in accordance with accounting principles and it is not just a fraudulent behavior.

Scott (2009) in Financial accounting theory, a more modern article compared to those cited previously, provides the following definition: "Earnings management is the choice by a manager of accounting policies, or actions affecting earnings, so as to achieve some specific reported earnings objective." To this definition applies a wide range of goals and motives and the actions aimed at manipulating the finances of a firm.

Healy and Wahlen (1999) in "A Review of the Earnings Management Literature and its Implications for Standard Setting" believe that "Earnings Management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." This definition is highly opportunistic and comes from the assumed motives of the management to report better than actual results. The process of misleading the stakeholders is at the heart of Earnings Management around IPO as through these actions the firms builds a better image for itself, thus leading to increased funding from IPO.

There is a possibility to divide the definitions into two main groups – beneficial and opportunistic. For example, Mahjoub and Miloudi (2015) classified definitions of Earnings Management to be either of opportunistic nature or have an informational perspective. The definitions that are of an "informational" group are mostly interested in the topics concerning the use of various accounting powers to better signal private information of the company towards agents, that might be interested in it. The second group is concentrated on the use of accounting methods for the benefit of the firm or for the benefit of the management. We should note that the authors state that the opportunistic behaviors, that are not in line with accounting principles and

could be called a fraud, should not be considered as Earnings Management. Another classification is presented in the chapter Definition of Earnings Management in the book "Earnings Management" (Ronen, J., and V. Yaari. 2008). The author made the division of Earnings Management definition into three different groups:

1. Beneficial. Where Earnings Management are said to have a positive influence on the report transparency;
2. Pernicious. Where Earnings Management coincides with frauds and blunt misrepresentations;
3. Moderate. Where Earnings Management involves manipulation of reports within the boundaries of compliance to be either opportunistic or efficiency enhancing.

This classification goes against the one described before, specifically including fraudulent actions in the process of defining Earnings Management. We also believe that such behaviors are outside the scope of our research as this analysis will involve completely different methodology. We believe that the classification provided in Mahjoub and Miloudi (2015) better serves the purposes of our work, hence we will use it in classifying previously analyzed definitions. At the same time, we will include the traits of "beneficial" group from Ronen and Yaari (2008) to the "informational" group.

In the table 1 below we have classified previously discussed definitions:

Table 1

Definitions of Earnings Management

Informational	**Opportunistic**
"Reasonable and legal management decision making and reporting intended to achieve stable and predictable financial results." - (McKee 2005) "The process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings." - Davidson, Stickney and Weil (1987)	"Purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain" – Schipper (1989) "Earnings management is the choice by a manager of accounting policies, or actions affecting earnings, so as to achieve

	some specific reported earnings objective." – Scott (2009) "Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." - Healy and Wahlen (1999)

Though each aspect of Earnings Management described in this table is important to analyze, the scope and the way of researching them are quite different. In our case the most appropriate definitions are those that belong to "Opportunistic" column.

This way the closest definition of Earnings Management that we are going to reference in our research is as follows: "Earnings management is the use of accounting policies, or actions affecting earnings, aimed to achieve some specific reported earnings objective". This definition is wide and does not exclude any important factors, that may influence the Earnings Management levels in Russian firms.

Another important factor in our work is how the Earnings Management is conducted. This discussion will primarily concentrate on the difference between two main types of Earnings Management – Accrual Based Earnings Management and Real Earnings Management.

Joosten (2012) in the research analyzing the tradeoff between the relative costs of Accrual Based Earnings Management and Real Earnings Management defines Real Earnings Management as a deviation from normal operations of a firm to manipulate earnings. This definition is in accordance with that of Roychowdhurry, the creator of the most established model for assessing the Real Earnings Management (2006). Accrual Based Earnings Management is defined by Joosten (2012) as an altering of accruals in order to achieve the particular income level. The author

also states that it is defined by the use of judgment in financial reporting by the firm's managers – the notion majorly connected to the aforementioned definition of Earnings Management by Wahlen (1999).

Braam et al. (2015) state that unlike Accrual Based Earnings Management, Real Earnings Management alters the execution of real operations of the business, hence the name. The Accrual Based Earnings Management on the other hand uses different accounting methods and know-hows to alter the financial results. What is interesting in this particle article is that the authors connect the decision of using the particular type of Earnings Management to the existence of political connection in a firm. This is particularly interesting in the context of Russian economy, as the conditions on our market are well defined by a number of companies with state ownership or at least with a number of political connections. The authors conclude that the more the firm is related to politicians and the state the more likely it is to use Real Earnings Management compared to Accrual Based ones, as when the firm is caught using Accrual Based Earnings Management it losses these ties and the benefits that come from them. This could also be the case in Russian firms, but we believe that when a company is state owned and engages in Accrual Based Earnings Management it could throw a shade on the legitimacy of operations of the whole government. In our research it could be valuable to try to check whether these conclusions also hold true when analyzing a developing market of Russia, compared to a dataset of 30 countries in Braam et al (2015).

Darmawan, Sutrisno, and Endang (2019) in the «Accrual Earnings Management and Real Earnings Management: Increase or Destroy Firm Value?» provide very similar definitions to the previous ones: Accrual Earnings Management are those that are carried out through the use of accounting principles, while Real Earnings Management come from real activities of the firm. The results of this article are more interesting – authors show that for Indonesian companies (also a developing market, such as Russia) the effect of Real Earnings Management on the company's value was negative, while that was not the case for Accrual Based Earnings Management. This is quite interesting considering the notions, addressed in «Accrual-Based and Real Earnings Management and Political Connections» (Braam et al. 2015), showing that even though Real Earnings Management is better to use to not get detected, they in fact decrease the firm's value. This puts more pressure on the firm to engage in Accrual Based Earnings Management, even considering that it might have political connections, the fact that makes the consequences of Earnings Management detection more severe. The results of our work may show, what choice do companies in Russia follow through in the end – to face the probability of detection or to possibly lower the value of a firm.

Overall, we see, that contrary to the situation of defining the Earnings Management, the definitions of Real Earnings Management and Accrual Based Earnings Management do not differ dramatically from author to author. These notions are quite well defined, have specific goals and imply different well-known actions. This way, in our research we will not deviate from the commonly used definitions of Accrual Based Earnings Management and Real Earnings Management. At the same time, the overall definition of Earnings Management we use in our work include the effects of both these types of Earnings Management without concentrating on just one of them.

1.2 Motivations for Earnings Management

In this section we will briefly provide the context behind Earnings Management – what motivates the firms to use it and what can it lead to.

The article «Earnings management by friendly takeover targets» by Ben-Amar and Missonier-Piera (2008) is mostly concerned with the connections between M&As and Earnings Management and thus is not directly related to our research. But great attention is paid to the importance of the context – how the firm makes the decision of whether to manage its earnings and how to do it. The authors are heavily concentrated on the motivations of managers, while comparing friendly and hostile takeovers. The research proofs that the friendly takeover targets managers are likely to be engaged in downward Earnings Management, contrary to target companies of a hostile takeover, that usually manage earnings upward. The researchers argue, that during the hostile takeover the managers are motivated to increase earnings, so that the offer is more likely to be rejected. While in the context of friendly takeover the managers are trying to retain their position by facilitating the deal and to report higher earnings in the time period after the acquisition. This work is not directly related to our work, but it sheds a light on the importance of why we should always take into consideration the motives of the management of the firm, so we could better understand how each event is likely to influence the Earnings Management within a company. This shows us that it is valuable to better define the results we will get, to try and show the reasonings behind them from the point of view of the company.

The authors of the article «The Underlying Motives for Earnings Management: Directors' Perspective» (Hashimm, Salleh, and Ariff 2013) concentrate on another motive for Earnings Management – the human involvement. Particularly, they aim to analyze what drives directors of the firms to be engaged in this behavior, thus providing a more behavioristic approach, compared to the purely financial one. The analysis was conducted based on the data of the emerging market

(Malaysia) and thus it can also be to an extent applicable to the Russian case in our work. The results of this paper state that the main motive to manage earnings on the directors' part is the desire to meet market expectations and to satisfy all the different stakeholders. These findings are closely related to the process of IPO as it is primarily the time when the greatest attention is paid at trying to appeal the market, this way the behavior of the firm directors supports our expectations of the existence of Earnings Management around IPO. At the same time, the authors state that the personal benefit that a director might get is not a crucial factor in regards to Earnings Management. We believe that this finding is not a reliable one, as the main way to draw this conclusion was based on the survey analysis, during which it is highly likely that the respondents will not confirm something that paints them in a negative light. This leads us to believe, that, contrary to the presented results, the monetary benefit of the director should be a valuable factor included in analyzing the motivations behind Earnings Management.

The article «The Earnings Management Motivation: Accrual Accounting vs. Cash Accounting» (Goel 2016) aims at showing that motivations behind Earnings Management impacting the view of the market are indeed justified. The author wanted to see how the end users of the financial reports, therefore the market players, react to various types of reporting. The analysis was based on the data for Indian companies, firms from another emerging market, which once again allows the application of the findings to the analysis of the Russian market. Judging the different metrics for persistency, correlation and variability in the reports the author concludes that reporting, that is dependent on the accruals is less complex in use and is preferred by the market. This coincides with another finding of the article, that shows that it is easier also from the point of view of the company to manage earnings through accruals. This way the fact that the market prefers the reporting that incorporates accruals (Income Statements and Balance Sheets) and uses this data in the investment decisions motivates the companies to pay greater attention to Accrual Based Earnings Management. These findings are especially relevant in our case – the Russian company that wants to perform better at IPO may want to influence the market players, and the article (Goel 2016) shows that it is a viable option to do so in the case of developing countries through the use of Accrual Based Earnings Management. Though this particular article does not aim to confirm or deny the existence of substantial motivation to engage in Real Earnings Management, the fact that the accruals type is so efficient may lead to the fact, that the firms will have no motives to engage in Real Earnings Management if they are already engaging in the Accruals Based one. These motivations are important in the context of our research and will provide more insights into the particular results we will get.

Though our research primarily concentrates on the upward Earnings Management it could be valuable to consider the motives of why do firms manage earnings downwards. The article «Evidence on Motivations for Downward Earnings Management» (Badertscher et. al 2009) provides exactly that. By analyzing the dataset for firms from the United States the authors concentrated on analyzing the tax and non-tax motives for the firms to manage earnings downwards. We should note though, that the companies chosen by the authors were not reliably engaged in downward Earnings Management, as they were chosen by the fact of restatement of earnings upwards, which probably was due to the previous managing of earnings downwards. and not on the basis of the classical analysis by the Earnings Management models. The article shows that the desire to manage earnings for tax purposes is likely not existent in the firms of the United States. On the other hand, the non-tax motives are detected with a major reliability. The firms are motivated to manage earnings downwards in order to smooth the earnings, which in turn will provide an "expectations reserve" for the market. The downward Earnings Management is also used to manage shares – before the stock repurchase or the decision to buy a part of shares by the important stakeholder the company may want to manage earnings downwards to lower the price of shares. Lastly, the authors state the motivation to avoid political costs as another motive to manage earnings downwards, the fact that was especially prevalent for the major companies in the market. These findings are helpful in the interpretation of the downwards Earnings Management that we may see in our final results. But, we should also note that, we believe, that it is unjust to not consider the tax effects as the motivation for managing earnings downwards. Firstly, the companies analyzed in this article were obliged to restate their earnings, signaling that they have been caught managing earnings downwards. It is probable, that the companies, seeking the tax reduction will pay greater attention to not get detected by the regulators – either through the use of more elaborate techniques or by assuring themselves that they are not monitored in the current time period. In other words, the dataset used in «Evidence on Motivations for Downward Earnings Management» is likely to not include companies with the tax related motives and hence we may not state that the firms are not considering these effects at all. And secondly, the chosen market is the developed one and it is not correct to directly compare it to the Russian one. The regulations on the Russian market are less strict and the firms in turn have more ability to manage earnings downwards for the taxation purposes. We should note to that the Earnings Management around IPO can't be explained by the desire to smooth the share prices, as there are no shares at this time to begin with. So in our research we will need to consider tax and political motives for downwards Earnings Management as the primary ones.

There is little doubt that Earnings Management is important for the company. But we will present a number of articles that prove just that – practical importance and consequences of understanding how Earnings Management work and what aspect it may influence in direct or in indirect ways.

«An Analysis of Managerial Use and Market Consequences of Earnings Management and Expectation Management» by Das, Kim, and Patro (2011) shows that there exists a possibility of the market to detect the fact that earnings were manipulated with. But, overall on average the share price will still change positively, showing that the market players do not fully catch the earnings manipulations. In other words, this article proves that firms do benefit from managing their earnings in connection to market perception. But the modeling was done on the data for United States companies, and it is interesting to see whether the same effect will be present in developing countries, that also have less developed financial market, such as Russia. On the first glance, it could seem that as USA has major players on the financial markets so its market will be more likely to detect Earnings Management compared to Russia. But at the same time United States has a huge number of minor players, much more than in Russian market. These players may not be able to properly understand where the Earnings Management took place, and so, with the low number of such players, Russian financial market may not possess the same characteristic that was proven in this article for USA. This research shows that popular opinion that market players can nowadays easily detect Earnings Management is wrong and the company can still influence stock price by manipulating its earnings.

Moreover, the article «Asset Returns Under Periodic Revelations Of Earnings Management» by Sun (2014) reveals that the "culture" of manipulating earnings (environment where firms are motivated to engage in it) impacts the changes in stock prices on the whole market of this exchange. The author specifically concentrates on the fact that executive managers are very likely to engage in Earnings Management to their own benefits. This research proves that in such an environment all investors cannot fully reveal the earnings manipulations and so the prices of the stock will not fully reveal the truth. This way the article also proves that Earnings Management can indeed influence the share price. But the author does not reveal direct relationship between Earnings Management and the stock price, but rather just proves that the share prices are not accurate if the companies are likely to engage in manipulation of earnings. We believe that Russian market does not fully fit the description provided by Sun (2014) and even though the price of each particular stock can be influenced via Earnings Management, there will be no common widespread movement in the stock market prices. Nevertheless, this paper shows that our results can be applied to the majority of the market, as the decision of the vast number of players to engage in Earnings

Management influence the state of the whole market. This article once again proves that Earnings Management indeed is a viable tool to change market perception of the company.

In the article «Earnings Management and Analyst Following: A Simultaneous Equations Analysis» the authors, Hong, Huseynov, and Zhang (2014), investigate how does the level of Earnings Management in a company influence the desire of financial analysts to follow it. We mainly study this article to prove the importance of our research, for, as it was stated in this paper, the analysts following brings certain benefits for the company, such as higher market value and lower target debt ratios. The authors managed to confirm that the strength of earnings manipulations within the company does influence the following of analysts. Moreover, the authors explain that the whole information environment surrounding the firm is important for the analysts. This way the results of our work will add to that environment by highlighting the traits of the company that will most likely lead to increased or decreased Earnings Management. In that sense our research will help out both the analysts, by allowing them to be able to better assess the companies, and the firms, by showing that not engaging in Earnings Management attracts more analysts, that in turn provides some benefits for the firm.

Through the results of empirical analysis of presented above articles we made the practical importance of our research clearer. Our work will be able to provide not just some academical importance but also practical benefits for the companies in Russia and analysts following the firms in our country. We will try to also consider the motivations that are behind the decision to pursue Earnings Management as it will help in the interpretation of our results and, hence, in better formulation of the practical uses of our research.

1.3 Earnings Management around IPO: what influences it and how to measure it

The next part of our research concentrates on a practical literature review. In this part we will analyze articles that concentrate on research topics related to ours as well as other articles that will shed a light on the analytical part of our work. Through this analysis we will be able to formulate the hypothesis that we are going to test out, decide on the methodology of our work and provide proofs of the relevance of our research.

The article «When and why do IPO firms manage earnings? » by Sletten et al. (2018) is one of the major references in our work. Its aim is to understand the connection between the IPO process and the earning management. The main finding of this article is that there exists an evidence of positive abnormal accruals in the quarter before and the quarter of the lockup expiration, while before the IPO process there is no such evidence. The authors go into great details

over the IPO process and how different stages of it incorporate different motivations of agents within a firm. They believe that the timing of Earnings Management in the context of the IPO process is crucial. And they manage to proof it. As a main motive for these actions of management authors highlight the fact that the company tries to raise the stock price in anticipation of selling by pre-IPO shareholders. This goes in contrast to previous findings, where the authors concentrated more on the final IPO price (Teoh et al. 1998; Ball and Shivakumar 2008). To express Earnings Management in the numerical form the researchers used Modified Jones Model. One of the drawbacks of the article is that it is difficult to determine which companies were analyzed, specifically to which part of the world they belong. Though, it is most likely that these firms were not of Russian origin and not even from developing countries. That makes it interesting to find out whether the results will be similar in the context of Russian business sphere. But it is very unlikely that we will be able to obtain all the information concerning the timeframes of shares emission for Russian companies. This way we will not be able to fully implement the methodology of Sletten et al. (2018) in our work.

The work that investigates the IPO and Earnings Management in developing countries is «Earnings Management and the floatation structure: empirical evidence from Polish IPOs» by Sosnowski (2017). In it he not only investigates whether there is a connection between these two terms, but also checks how Earnings Management change the portion of a shares in an emission. Though the article states that the majority of other related researches use Modified Jones Model, it incorporates the extension of it - Larcker and Richardson Model. The author states that this model is better used while assessing accruals for a fast-growing firm. As our dataset will not mainly consist of only fast-growing firms, we will not use the Larcker and Richardson Model. Furthermore, this work, contrary to the previous one, uses logistic and Tobit regressions, as it takes the proxy for earning management as a dependent variable. This presents us a different approach, that can also be viable in our case, though only as an addition to the previously described cross-section or panel data analysis. This methodology was also selected due to the nature of the data in the article, that incorporated very young firms. As it is not the case in our work and other researchers do not use such an approach, we believe that there is no place for using logistic and Tobit regression in our work. In the end, Sosnowski (2017) did not manage to proof that companies heavily engage in Earnings Management before the IPO, but the Russian business environment is a bit different to the one in Poland and the companies on our case are majorly different also so we will still need to analyze this connection.

These articles directly coincide with our research that concentrates on the Earnings Management levels around IPO, but the body of the similar researches is not limited to just these

works. In the later stages of the critical literature review we will also analyze other related sources, but it is viable to already state our main hypothesis of the work:

H1: Before IPO the firm will be engaged in an upwards Earnings Management

This hypothesis is supported by a large number of findings. These findings in their majority are concentrated on the analysis of developed countries, but most of the results of the articles dedicated to emerging markets also have the same results – firms tend to have higher degree of Earnings Management around IPO. The results from the Sosnowski (2017) could be contradicting because of the structure of the used data – the analyzed companies were very fast growing and are represented by a corporate structure similar to startups, which is not suitable for targeted actions of earnings inflation. That is not the case with the dataset that we have in our research, as it is mostly represented by a traditional already positioned on the market companies. Moreover, firms from established markets have higher investor protection and better means to detect Earnings Management, compared to the firms from developing countries. This shows that it is highly likely that the Russian firms will also have upwards Earnings Management around times of IPO.

One of the more technical work is the «Detecting Earnings Management» by Dechow, Sloan and Sweeney (1995). This article concentrates on the comparison of different models for assessing Accrual Based Earnings Management and the findings of the authors can be directly used in our research. This work shows, that the majority of the models provide doubtful results only in the cases of critical states of company operations. But out of all analyzed models the Modified Jones Model provides the most accurate results. The article Earnings Management Research: A Review of Contemporary Research Methods by Sun and Subhrendu (2010) has the similar structure – the authors analyze the models that are often used by others to evaluate the levels of Earnings Management. This article also underlines the widespread use of Modified Jones Model, but in addition to that it adds the discussion of the possible improvements to this method. These changes include the use of managerial compensations in the model and the implementation of profitability metrics into the equation. The same analysis continues in the article by Xu, Taylor, and Dugan (2007). They state that there is virtually no new models and new analysis methods are mostly concentrated on altering the established Modified Jones Model. The research states a number of alterations to the model, for instance using cash flow statements instead of balance sheet data or introducing non-linear elements in the model. They believe that such modifications may provide a new way of future research. But, the analyzed articles were from 2000 to 2006 and we saw little use of such models in the more modern literature – the majority of the authors still use the Modified Jones model. These modifications are not widely considered to be useful in the majority of the cases and the authors of them did not manage to prove the wide usefulness of these

models for each possible case. In addition to that, these proposed modifications often involve more complex data gathering process, such was the case with the executive compensation, which are not really feasible when analyzing the developing markets with the lack of information that is easily available. Considering these results and the fact that the majority of the analyzed literature also incorporates the use of Modified Jones Model, we also decided to use this specific model as a part of our research.

Now we need to answer the question why does the article «Earnings management and the floatation structure: empirical evidence from Polish IPOs» (Sosnowski 2017) does not use Modified Jones Model if it is confirmed to be the best one? It is not only because of the inclusion of growing companies in the dataset, but also due to the context of the market itself – some articles point out that researches of the firms in developing countries tend to have lower accuracy if the main model of use is the Modified Jones Model. Close attention to this problem was first payed in «Cash from Operations and Earnings Management in Korea» by Yoon, Miller, and Jiraporn (2006). Moved by the findings of this article, concerning the probable relative unsuitability of Modified Jones Model in the analysis of companies in developing countries, Aminul, Ruhani, and Ahmad (2011) set a goal to prove this concept. In their article «Is Modified Jones Model Effective in Detecting Earnings Management? Evidence from A Developing Economy» they analyzed Earnings Management around IPO firms from Bangladesh. The authors found out that R^2, as a proxy for explanatory power, of Modified Jones Model, was quite low – at 8,9 percent. While extending the model, using techniques suggested by Yoon, the R^2 majorly increased to 83,8. This way, this article shows that in the Bangladesh case the Modified Jones Model is not the best choice. But, it is possible that these results will not be relevant for Russian firms, as the economy of Russian Federation is quite different to Korea and Bangladesh. In addition to that other authors do not pay great attention to the explanatory power of the models, as it is not considered by them to be a viable reason to deviate from the Modified Jones Model. We believe, that it could also be interesting to check, whether the Modified Jones Model or its extension, suggested in the discussed above articles is more appropriate for assessment of Earnings Management in Russian companies. The structure of these models will be discussed later in the methodological part of our work and we will show that the use of these models is connected to some difficulties.

At the same time, we should point out, that there exists the possibility that the suggested models for developing countries are constructed specifically to some part of the emerging markets, which may not include Russia. But this problem is not directly connected to Earnings Management in developing countries and more to the specific modeling and statistical analysis, and thus should not be a major point of interest in the following research. Even though these notions are not what

we analyze in our work, this could be a very interesting topic to research, trying out both of the models for the Russian market data and judging by their level of accuracy deciding which one is better fit to analyze Earnings Management in Russian firms, per se testing the assumption of whether the suggested extended model is applicable to all of the developing countries.

The analysis of these articles provided us with the better understanding of research methods and designs used in topics, that are similar to us. The majority of researchers use the same methodology but there is evidence, that it is not always usable in the business sphere of developing countries. The articles also shed some light on the motivation behind Earnings Management, allowing us to draw some parallels when we will be interpreting the results of our empirical analysis. While looking for researches around this topic we found a lack of those that are dedicated to Russian business sphere, furthermore the number of articles dedicated to the analysis of Earnings Management and share issuance in developing countries was minor. Our research will aim to cover this research gap.

The next part of the analysis investigates other factors that may be important in the process of our investigation. We mostly concentrate on different influences of financial market, but we are still going to consider internal characteristics of the companies in our final analysis of the results.

The article «Pre-Listing Year Earnings Management and Listing Requirements: evidence from Kuwait» by Al-Gharaballi (2016) explores whether the firms tend to manage earnings before the listing on the stock market. This article is one of the very few that explore this topic in developing countries – one that our research is concerned with. And the authors do indeed manage to prove that the Earnings Management does exist in companies in developing countries that are faced with the listing procedures. They found out that the companies that are pursuing listing on the exchange tend to use current accruals to manage their earnings upward, rather than total accruals. This article shows that firms in Russia, as it is also a developing country, are likely to engage in Earnings Management before obtaining the listing. This research though does not compare listing on domestic market versus foreign markets. Moreover, this article provides no insight concerning the question of whether the companies that are listed are more likely to be engaged in Earnings Management after the listing. As our work does not largely investigate the listing process, we will include in our model mainly the difference between already acquired listings.

The work that investigates specifically this point – difference in Earnings Management between listed and not listed firms – is «Stock market listing status and Real Earnings Management» by Haga, Höglund, and Sundvik (2018). By using data for UK companies, the

authors confirmed that listed companies do indeed manage earnings more compared to private companies. Furthermore, public firms have a larger share of Earnings Management dedicated to Real Earnings Management. These findings could be interesting to analyze in the conditions of developing countries, such as Russia. In our case we can also include the small period after the IPO into our analysis. Moreover, it could be valuable to also compare listings on the Russian market and listing in other countries to find out whether the benefits and stricter requirements of listing abroad have an effect on the level of Earnings Management.

Another research that compared Earnings Management in firms that are listed and those that are not is «Earnings management strategies during financial difficulties: A comparison between listed and unlisted French companies» by Campa (2019). In contrast to the previous article, this work investigates the firm's actions in Earnings Management specifically during hardships. The author used Modified Jones and Roychowdhury models to test the data for 6407 French companies. He managed to find out the existence of upward Earnings Management through real activities during financial difficulties in both types of firms - listed or not. But the strength of these manipulations was proved to be higher in the companies, that have a listing. That was especially true for those firms that have a high level of debt. These results once again serve as proof that the firms are likely to engage more in Earnings Management if they are listed on the exchange. But this article also shows that it may not always be the case at just any specific time point. This increase in managing earnings in listed companies can only happen during specific events, while not happening on the regular basis. We can assume that the IPO process, the stage when the company shifts from being private to being listed on the exchange, should be considered as one of such events. This article is one of the few that investigates the real Earnings Management and as it does so via the use of Roychowdhury model, as it was written not long ago, we will also use it in our research.

This way, we can see that there are evidences of the importance of listing to the level of Earnings Management. But there are no relevant researchers dedicated to foreign listing impact, probably due to the fact that the articles are often dedicated to the already developed markets. In our models we will try to prove that the level of earnings manipulations will be lower if the firm has a listing in a country other than Russia, as a part of developing countries do. It could be interesting to also see whether the Earnings Management during shares emission process will differ depending on the foreign market where the company is listed in, but unfortunately Russian companies, that pursued a foreign IPO, do not differ dramatically by their choice of the exchange – the vast majority of the analyzed firms are listed on the London Stock Exchange. This makes it

meaningless to try and see the difference between the chosen foreign exchange in the context of Earnings Management. This leads us to the following hypothesis, that we are going to test out:

H2: Firms listed in the markets outside of Russia will be less involved in Earnings Management

Another interesting point, concerning Russian business environment, is the state ownership. The article «Do State Enterprises Manage Earnings More than Privately Owned Firms? The Case of China» by Wang and Yung (2011) compares the level of earnings manipulation between private and state-owned firms. The authors found out that companies, that have a government involvement in their operations, tend to have lower degrees of Earnings Management. They suggest that it could be connected with the benefits that the company gains from state enterprise protection and thus the desire to not loose these benefits leads the management of the firm to try and not displease the government with high levels of earnings manipulations. Russia is also a developing country like China, and we can expect to see similar results. But there are no such strict state market protections in Russian Federation, minorly undermining the possibility of the same effects.

The article «State Ownership and Earnings Management around Initial Public Offerings: Evidence from China» by Cheng, Wang, and Wei (2015) is more concentrated on the Earnings Management related to IPO, rather than during all the operational time, like did the previous research. This research also uses the Modified Jones Model to numerically express Earnings Management. Firstly, the authors found out that around IPO the earnings in Chinese firms are usually inflated. That gives credit to the notions that Russian companies' earnings will also be manipulated with at this event time period. But the research also shows that around IPO state-owned companies usually engage in less Earnings Management than private ones. We can expect the same behavior for Russian firms, but it can differ based on the financial market on which the company is listed or is going to be listed at. Though we will still believe that the overall effect of state ownership will result in decreased Earnings Management.

From the analyzed articles we can see that there is a possibility that Russian state companies may also have lower degrees of Earnings Management. But we should note that researches concerning this topic are mostly dedicated to China and the business sphere of Russia is quite different to that of China. The government provides quite a bit less benefits for a company in Russia if it owns it compared to the similar situation in China. In addition to that the "punishment" from the state could be less crucial in the Russian case, compared to Chinese firms. This makes the results not easily predictable and makes our attempts to investigate this problem more

interesting. Nevertheless, the role of the state in the Russian business sphere is important and we cannot ignore it, hence we created the following hypothesis:

H3: Firms with state ownership will be engaged in Earnings Management to a lower extent and have higher or equal degree of REM compared to the level of AEM

The aforementioned articles are dedicated to the analysis of developing countries, though they mostly concentrate on the state ownership. The emerging markets also have other properties that make them unique. For example, Wasan and Mulchandani (2020) describe Indian market conditions as informationally asymmetric ones, extrapolating this trait to all the other developing markets. They state that, apart from vast political connections of firms, the Indian market has problems with corruption and accounting transparency. The authors also state that it is often the case that firms in emerging markets have different corporate governance systems compared to those in developed countries. The articles by Manzano, Conesa, and Sánchez (2014) and by Al-Fayoumi, Abuzayed, and Alexander (2010) specifically emphasize the difference in the degree of investor protection between the developing and developed countries. Manzano, Conesa, and Sánchez (2014) directly relate the increasing degree of the protection of investor rights in Mexico to it closing the gap to becoming a developed market. The results of this research also coincides with previous works, which state that listing on the foreign market with increased investor protection is connected with lower levels of Earnings Management. The article by Al-Fayoumi, Abuzayed, and Alexander (2010) is specifically stated to be applicable to the majority of emerging markets. The authors describe them as being of a lower degree of investor protection, high share of insider ownership and less developed block-shareholders. Even though authors believe that Jordan market conditions are relevant for all the other developing countries, Jordan companies are much less politically connected than Russian ones. This shows once again that it is hard to state that all of the emerging markets are the same and we cannot use one universal inference when analyzing them. Our work, due to the peculiarities of the Russian market, cannot just ignore the influence of political connections of a firm on the level of Earnings Management around IPO.

All of the discussed traits of emerging markets were directly tied by the authors to the Earnings Management and we should also consider them when analyzing Russian market. Some of them, such as political connections of a company, we will directly include in our analysis, and we will use others in the process of explaining the results of our work.

The literature review provided us with useful context related to our research. We analyzed different interpretation of Earnings Management definitions and formulated the one that is most applicable to the aim of our research. Through the analysis of different motivations that the

companies have in regards to Earnings Management we better defined the powers at play and that will help us in the interpretation of our results. Finally, we reviewed the methodologies of different authors and on this basis decided upon our means of doing the empirical part of our research. After analyzing the related literature, we have constructed research hypotheses, that we are going to test in our work:

H1: Before IPO the firm will be engaged in an upwards Earnings Management

H2: Firms listed in the markets outside of Russia will be less involved in Earnings Management

H3: Firms with state ownership will be engaged in Earnings Management to a lower extent and have higher or equal degree of REM compared to the level of AEM

We should note, that although all of the hypotheses are important, the main one, and hence the goal of a work, is the first one - Before IPO the firm will be engaged in a minor upwards Earnings Management.

CHAPTER 2. EMPIRICAL ANALYSIS OF EARNINGS MANAGEMENT AROUND IPO

This part of our work is dedicated to the practical analysis. Firstly, we will describe the methodology behind our research – what our models look like, how the data was collected and what were the actions and problems that we faced. Then we will present the results of our analysis, analyze them in accordance with the drawn before hypotheses and make the conclusions. Based on this analysis we will be able to confirm or deny our hypotheses and provide the directions for the further research.

2.1 Research methodology

The main part of our empirical analysis involves the process of finding out the strength of Earnings Management in each particular company. To find out the level of Accrual Based Earnings Management (AEM) we are going to use the Modified Jones Model. As stated before, the article «Detecting Earnings Management» by Dechow, Sloan, and Sweeney (1995) proves, that Modified Jones Model provides the most accurate results. This fact, and the fact that nearly all of the researchers use this model confirms our decision to use it in our analysis. First of all, we need to assess predicted levels of total accruals with the following formula 1:

$$\frac{Total\ accruals_t}{Total\ assets_{t-1}} = \tag{1}$$

$$= \alpha_0 + \alpha_1 * \frac{1}{Total\ assets_{t-1}} + \beta_1 *$$

$$* \frac{\Delta Sales_t - \Delta Accounts\ Receivables_t}{Total\ assets_{t-1}} + \beta_2 * \frac{PPE_t}{Total\ assets_{t-1}} + \varepsilon_t$$

Here the level of Accrual Based Earnings Management is represented by the error term in the regression, in other words, by the difference between the actual level of accruals and the predicted by the Modified Jones Model level. The negative sign of the values for residuals will be connected to the downwards Accrual Based Earnings Management and the positive values are coincide with the upwards one.

But at the same time, there exists some evidence that the Modified Jones Model should not be used in the context of developing countries, such as Russia in our case. In this case some authors advised to use the following extension of the model (formula 2 below):

$$\frac{Total\ accruals_t}{Total\ revenue_t} = \tag{2}$$

$$= \beta_0 + \beta_1 * \frac{\Delta Total\ revenue_t - \Delta Accounts\ Receivables_t}{Total\ revenue_t} + \beta_2 *$$

$$* \frac{\Delta(COGS + SGA)_t - \Delta Accounts\ Payable_t}{Total\ revenue_t} + \beta_3 *$$

$$* \frac{Depreciation_t + Retirement\ benefits\ expenses_t}{Total\ revenue_t} + \varepsilon_t$$

Here we should note that this methodology is not really feasible to do in the context of our research. There is no easy way to get the data for Retirement benefits expenses for Russian companies at all, not even through the financial statements analysis, and Spark database also does not provide a direct way to get depreciation expenses for a number of companies at once. This way we will not use this model in our research but testing whether it is also useful for Russian companies could be an interesting topic of a further research, that would require different data collection techniques and modelling.

The next step will consist of finding out the scope of Real Earnings Management (REM). Though for this task we will use another model – Roychowdhury model – the process is quite similar. We will need to get the residuals from estimating the following model (formula 3):

$$\frac{COGS_t + \Delta Inventory_t}{Total\ assets_{t-1}} = \tag{3}$$

$$= \alpha_0 + \alpha_1 * \frac{1}{Total\ assets_{t-1}} + \beta_1 * \frac{Sales_t}{Total\ assets_{t-1}} + \beta_2 *$$

$$* \frac{\Delta Sales_t}{Total\ assets_{t-1}} + \beta_3 * \frac{\Delta Sales_{t-1}}{Total\ assets_{t-1}} + \varepsilon_t$$

Unlike the situation with AEM, there is no need to check multiple version of models that calculate REM. The majority of the articles use Roychowdhury model and we did not manage to find any researchers that either investigate other possible ways of modeling or criticize the widespread use of Roychowdhury model. We should note here that this model serves as the additional one, aimed mostly for the third hypothesis which compares the choice of Earnings Management method by the firms associated with the government.

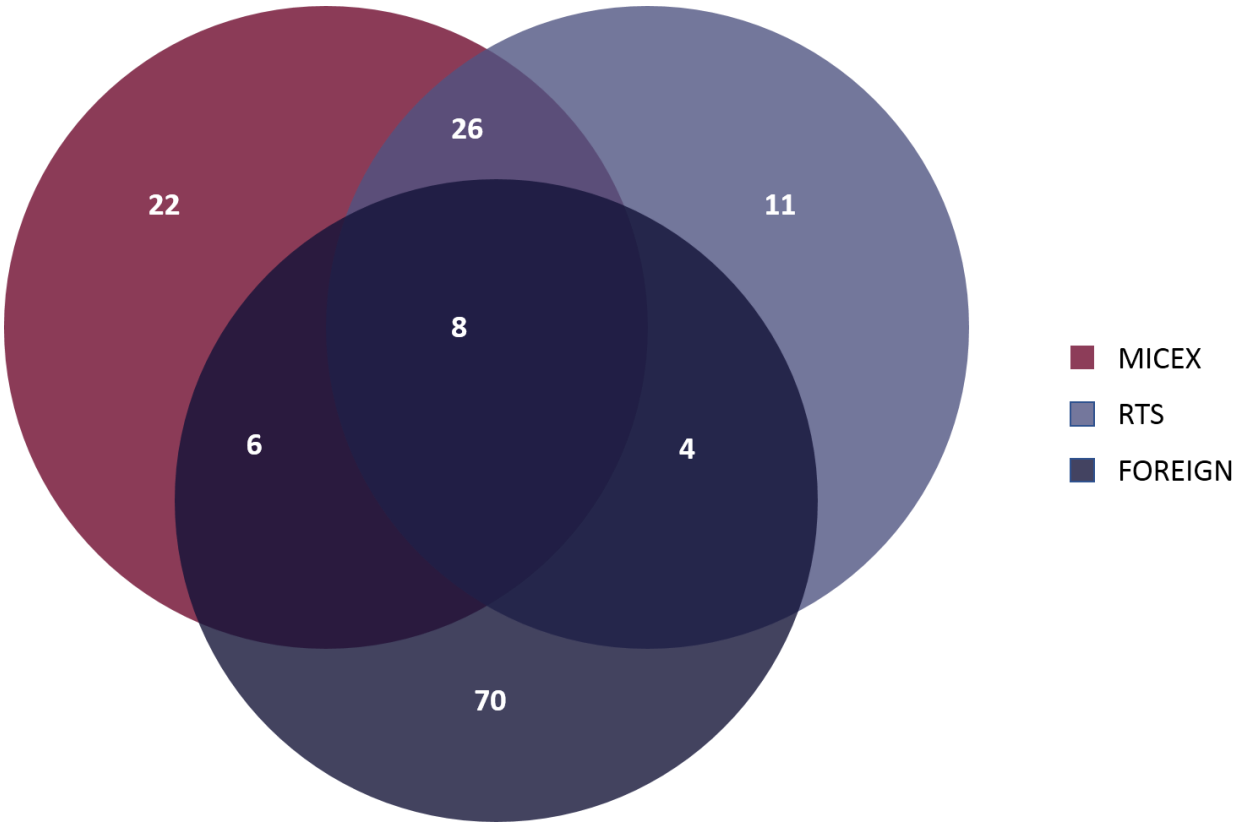
The values of residuals in both used models represent the degree of each particular type of Earnings Management. Positive values are associated with the actions aimed at upward manipulation of earnings, while the negative ones – with the downward Earnings Management.

The analyzed companies were chosen using Preqveca[1] database - Information and analytical portal for private equity in Russia and CIS-, specifically the project that tracks all the IPO and SPO of Russia, Ukraine, Kazakhstan and other CIS countries. In the earlier stages of our research we wanted also to include firms from CIS countries, provided by Preqveca into our analysis, but we found out that only a 4 firms from Ukraine and Kazakhstan that pursued an IPO are not actually owned and created by some large conglomerate from a foreign country. These notions go against the scope of our research, as such foreign companies obey the financial laws of other countries and also benefit from foreign investor protections, hence the Earnings Management levels will be not representative of the levels in the firms of developing countries.

Describing Russian market, the listed firms include 61 companies listed on the Moscow Stock Exchange, but some of them are also listed on the foreign markets. There are 13 firms that did it and the overwhelming majority of them are listed on London Stock Exchange. Investigating the Russian Trading System, we found 11 entities listed only there and 4 also listed outside of Russia. We should note here that from 2011 these two exchanges were combined together into MOEX, so the data we have for RTS is only before 2011. Out of the 61 companies from MSE, we found 26 that were also listed on RTS. Naturally, there existed firms that were listed on MSE, RTS and on foreign markets. We calculated 8 of those. There are also 70 Russian companies that listed abroad, without pursuing actions towards Russian market. The majority of firms that have a foreign listing in any way are on the London Stock Exchange. Other popular exchanges include New York Stock Exchange and NASDAQ.

To better represent the data of companies that pursued an IPO, we provide the following diagram (pic. 1):

[1] Preqveca database. http://www.preqveca.ru/



Pic. 1 Russian IPO by listing markets

The companies we chose for the next stages of our analysis include those that pursued IPO as late as in 2003. This was done due to the lack of data for the earlier IPOs, as the data from Spark for such a late period is quite limited and other sources, such as Interfax and official websites of the companies do not have such data at all. Fortunately, there was not a lot of IPOs at that time, which led us to exclude only a couple of companies.

We pursued a harder task of analyzing the quarterly data, rather than the yearly one, as it is often the case that quarterly data may provide clearer insights of when the company actually manipulates its earnings. This is especially true when analyzing the Earnings Management around IPO, as the companies can try to manipulate earnings in specific quarters and these actions will not be caught by the analysis of just yearly data. The quarterly analysis will also be able to provide more concrete results for further use, as the analysts will be able to see the most probable period of when the earnings are likely to be inflated. To capture the aforementioned effects, we decided to use all the quarters starting from the minus 4th from the IPO data to the plus 4th from the IPO date. We decided to include the period after IPO to compare the results and to see whether there is statistical reasons to claim that there indeed were Earnings Management around IPO. It could easily be the case that the companies that pursued an IPO possess some hidden characteristic that both makes them more prone to manipulate earnings and obtain a market listing. Including the control period of post-IPO, we will make sure, that this is not the case and the analyzed firms do

indeed manage their earnings around IPO for the reasons directly connected to the listing motives. In addition to the 9 quarters included in the 4 quarters from both sided of the IPO we added the minus 5th quarter from the IPO date. This was done to the reasons connected to the formulas used to assess the Earnings Management proxies – these formulas require the use of lagged variables, for example $Total\ assets_{t-1}$ or even $\Delta Sales_{t-1}$. Hence the period of analysis will automatically be cut by the number of lags required to calculate these variables. By adding the minus 5th quarter from the IPO date we managed to keep the proposed time period of 9 quarters. We decided not to include the minus 6th period that comes from $\Delta Sales_{t-1}$ (which requires at least two previous periods to be calculated), as this variable is present only in the Real Earnings Management model of Roychowdhury and this model is not in the center of our research – it is only used in the 3rd hypothesis, which compares the levels of Accrual Based Earnings Management and Real Earnings Management in the companies that are state controlled. This way our dataset consists of 150 companies multiplied by the number of chosen quarters – 10.

After acquiring the values of REM and AEM we should naturally move over to applying them to get the results. We will check whether the firm indeed increases its Earnings Management in two main ways: by comparing its Earnings Management levels around IPO to the ones, that the firm had after it and by comparing company's Earnings Management levels around IPO to its peer companies. This in turn leads us to defining peers for a company. For this task we used Thomson Reuters Eikon database[2] which incorporates Starmine algorithms to define the company's peers. Unfortunately, there was no way to get the peers data from the GSOM resources without manually requesting it for each company. At the same time, we need to take into account the fact that the company should be compared to its peers around the IPO. Fortunately, the Starmine algorithms are based on the timeseries data covering the majority of the company lifetime. But to be certain, we checked some of the controversial suggestions by analyzing quarter reports of the company, that often have sections dedicated to its peers, some of the financial metrics (mainly total assets and profitability) and news articles at the relevant time period. The vast majority of the times the peers that we collected through Eikon were not changed. To summarize the process, we followed when selecting peer companies, we:

1. Used Starmine algorithms, integrated into Thomson Reuters Eikon to get a list of peer companies;
2. Checked that the peer companies belonged to the same or related industries;
3. Compared financials of the companies, mainly their Total Assets;

[2] Thomson Reuters Eikon. https://eikon.thomsonreuters.com/index.html

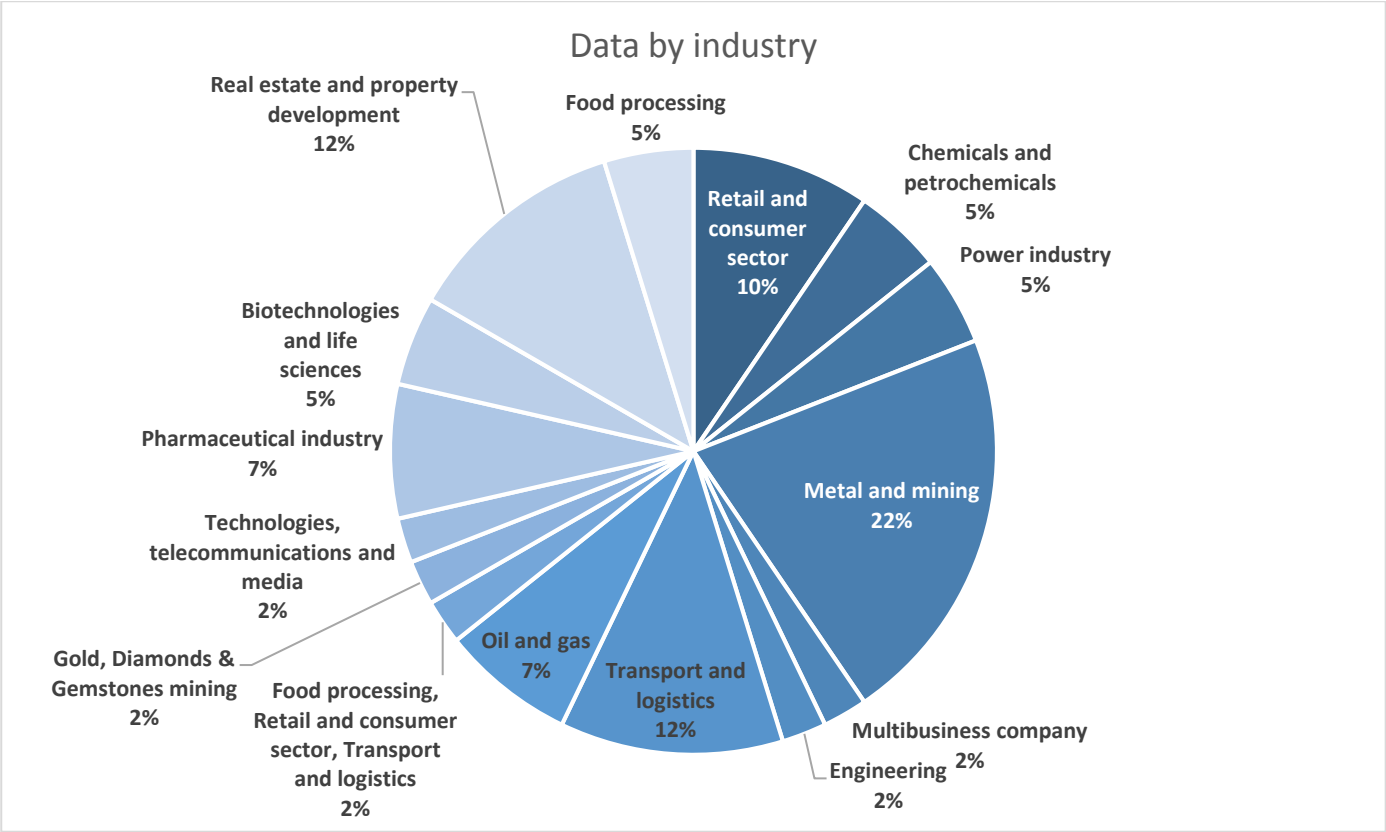
4. Filled in the minority of missing peers through analyzing the firms' reports and through the use of online informational resource.

Such a procedure like peer analysis is the common one in the Earnings Management research sphere. It has some limitations, mainly that it often incorporates the comparison of private and public firms and that it includes some event influences, that may lead the peer companies to also be engaged in Earnings Management (such as their own share emissions). Nevertheless, the researchers of this sphere widely employ this methodology, stating both the inability to remove the stated effects and the relative insignificance of them in the context of the final results. This way, we will also employ this common methodology in our work.

The quantitative data we will use was gathered through the use of Spark database[3]. It is a well-established and commonly used database for the analysis of Russian market. We filtered Russian companies by their organizational form to include only those that are public. Then we included in the dataset settings all the necessary financial metrics, that are used in Modified Jones and Roychowdhury models and set the data to get the quarterly results to better capture the around IPO period. Another advantage of using Spark was that it allows to also get the data from CIS and Western European Countries. But once again, after gathering the data and looking into it we found out that these firms are in the vast majority represented by a foreign mother company, which is not indicative of our research. Furthermore, when we first tried it out, we noticed that all the variables were defined differently in Ukraine and Kazakhstan compared to Russia. That led us to spend a considerable amount of time looking for exact replicas of already considered search filters for Russia. For example, we needed to find the appropriate organizational forms so that it fits the definition of a public company in Russia, we also had to account for different notions of financial metrics used in these countries as Spark had a different layout for choosing them compared to the Russian layout. And the results were lackluster – the data provided by Spark for these companies was not enough to conduct our analysis and it further underlined the fact that we should not have tried to include these countries into our analysis in the first place.

To better illustrate our data, that we gathered from Spark database, we provide the following pie chart (pic. 2):

[3] SPARK database. http://www.spark-interfax.ru/



Pic. 2 Companies by industry

We can see that the biggest part of our data consists of financials from the companies that are associated with mining, though it is still lower than the common threshold of one third of the dataset. At the same time major shares of companies also belong to Logistics, Real estate and Retail. This fact could be a limiting one, as the researched effects could be correlated with the industry specific notions, but at the same time the share of one specific industry in the overall dataset is not majorly big to significantly skew our results. Nevertheless, when splitting the data into smaller parts this effect could become increasingly influential and we should take it into account when drawing the conclusions.

Here we should also describe the data processing part of our work. This process took the biggest amount of time as the data collected via Spark was not in the right format and required a lot of manipulations to transform it into the viable format. For these reasons we created a number of macros, that cut the time needed to process the data. But even with the help of these macros the process was quite long. This shows the problem of using Spark databases, compared to other established sources for the developed countries. But at the same time other emerging markets might not even have a system such as Spark which shows why there is not a big number of articles dedicated to such countries – the data gathering and processing problems are quite severe. At the same time there were other data problems not directly connected to Spark, for example different

names of organizations. It was often the case that the name of the company was different in all the sources used. This was particularly the case when working with the peers' data collected through the Bloomberg Peers system – the names of firms from this source were not comparable to the ones listed in Spark. Though this problem was easily fixed by using the Internet Resources, mainly Google Search Engine, it still was costing more time, compared to the use of just one dedicated source of data.

The other problematic aspect came from the data availability limitations. The Spark database provided not enough data to apply all our models mostly due to the decision of working with the quarterly data. This led us to the need of using other data sources – mainly Interfax and official websites of the companies with their financial reporting. This process in itself was long and troublesome, but we also needed to make sure that the data is consistent between the sources, but it was sometimes otherwise, making it impossible to combine our data in such cases. In addition to that, we accounted for the outliers in our data, even though the normalizing effect engraved into both the Modified Jones Model and into Roychowdhurry model should take care of the effects, connected with the outliers. Nevertheless, we managed to cope with the aforementioned problems and collect a proper dataset, that was suitable for further use in Stata.

For calculations and data analysis we will use the Stata statistical package. It has all the needed functions and features and is promoted for use by a majority of established universities, GSOM included. There will be no need to import special packages into Stata, apart from some of those that we will use for data description through the creation of graphs and tables. Stata package allowed the use of "predict "varname", residuals" command, which presents the residuals of the regression, that in our case represent the Earnings Management proxies for both the Accrual Based Earnings Management and Real Earnings Management. This ease of obtaining the residuals was also the advantage of using Stata for our research.

To sum up the methodological part of our work, we will once again underline the structure of it. The part of our work concerning the fact of how to assess the Earnings Management was not complex relative to the other aspects of the research. The models for assessing the Earnings Management proxies will be represented by Modified Jones Model and Roychowdhurry Model. These models are widespread and well established and were very quickly detected during the literature review. The hardest part of our research though comes from the data. As mentioned by other authors it is hard to analyze Earnings Management in developing countries, which was unfortunately also true for our work. The data was not complete from using just one database and was not properly structured. This required a lot of efforts to fill in the data and to properly process it. The modelling in Stata provided no major problems, as we are quite familiar with this statistical

package and it allows the easy access to the residuals required by our methodology. The next part of our research will be dedicated to describing the results we got, analyzing them and adapting to the aforementioned hypotheses.

2.2 The analysis of the results

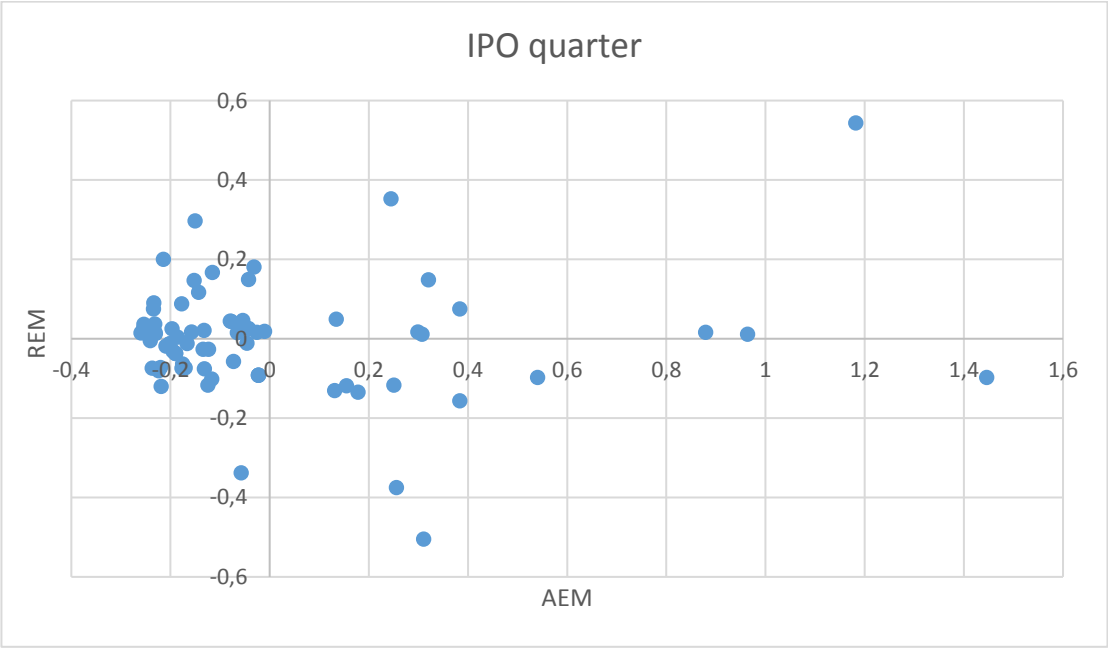
In this part of our research we would need to make sure that our inferences are correctly stated, meaning that we need to make sure that effects other than IPO motives are accounted for. So, when comparing firms, we will need to take the following notions into account:

- The listing abroad. We will need to compare the peer companies Earnings Management around IPO specifically selecting ones that pursue the foreign listing and those that do not to see whether it influence the level of Earnings Management.
- The existence of state control. We will need to compare the peer companies Earnings Management around IPO specifically selecting ones with and without state control, measured by the state ownership, to see whether it influence the level of Earnings Management.
- The industry influence. We should be careful in drawing the casual relationship conclusion. We will first need to see whether there are specific trends that an industry displays. For example, we should check whether the companies in this industry are commonly listing abroad, as it could be affecting the levels of Earnings Management and not the fact of belonging to the specific industry. The same holds true for the abundance of firms with the state control, as might be the case in the Oil and Gas industry in Russia.
- Time period influence. We will need to compare the resulting levels of Earnings Management around IPO based on the time period, as the financial crises could have an impact on the action of a firm around IPO. We will look specifically for 3 periods: 2003-2007, 2008-2013 and 2014-2018.

We would need to consider the aforementioned steps of analysis for both Accrual Based Earnings Management and Real Earnings Management. We will pay a particular attention of comparing the results for AEM and REM in the parts which concern the influence of the state control. These notions, although not entirely connected to our hypothesis, should allow us to get a more representative results, that are specifically connected to the research hypothesis and not under influence of other variables that have a silent effect on our results.

The analysis in Stata was successful and as our work is not directly relied on comparing the effectiveness of different models to assess the level of Earnings Management there is no real meaning in providing the outputs of regressions with the levels of significance and the model's strength, as well as provide statistical tests concerning the validity of the model. This decision is consistent with the reviewed literature, where the authors do not provide the specific information about the regression of Modified Jones and Roychowdhurry models. The only article, that did so was Aminul, Ruhani, and Ahmad (2011), where it was the goal to compare the effectiveness of the models between each other. As it is not the goal of our work, we will not pay such a great attention to these empirical actions. But, as mentioned before, the analysis of the effectiveness of the extension to Modified Jones Model, that is believed to be better suited for the firms from emerging markets, could be a very interesting directions for a further research in the Russian environment.

After running the models, we obtained the residuals with the help of "predict "varname", residuals" command, employed in Stata. These residuals serve as an Earnings Management proxy for both Accrual Based Earnings Management and Real Earnings Management – positive values represent an upwards Earnings Management, while negative ones are connected to downwards Earnings Management.



Pic. 3 Distribution of AEM and REM

This graph (pic. 3) shows the distribution for levels of Accrual Based Earnings Management and Real Earnings Management for the quarter, when the IPO took place. It only is a slice of the data, as we have residuals of our model for 8 other quarters. We can see that the

majority of the data is close to zero in both cases. The negative values are normal, as they often indicate basic operational changes and some manipulations aimed at reducing the tax losses. But the data points that have positive values of Accrual Based Earnings Management are still present and these points could be represented by the companies, that had an IPO in this quarter. Nevertheless, this graph is mostly used to graphically present the residuals of the models and it can be used only for a one period analysis and thus it should not be considered as a concrete result.

Additionally, we provide a descriptive statistic of our results for both Accrual Based Earnings Management and Real Earnings Management on the whole time period (table 2):

Table 2

Descriptive statistic for AEM and REM

AEM		**REM**	
Minimum value	-0,5784	Minimum value	-0,5915
Maximum value	1,4462	Maximum value	0,5558
Mean value	-0,0058	Mean value	0,0001

These results show that Real Earnings Management practices are by far less popular in the Russian case. We can see that the average value for REM was so small that it is virtually zero, as judged by the statistical test. This fact will surely impact our further results and we may expect the low engagement in Real Earnings Management practices around IPO. This uncommonness of the REM activities can be explained by our time period – the Real Earnings Management is a relatively new topic and the companies in our analysis may not be aware of this way of managing earnings. More importantly, we believe, that there is no motivation to pursue Real Earnings Management if the firms are already engaging in the other type of managing earnings – Accrual Based one. This assumption is supported by the notion that Real Earnings Management have negative impact on the value of the company in a long term. Further stages of the results analysis will also underline the prevalence of Accrual Based Earnings Management in Russian firms.

We will start our analysis from the first hypothesis (H1: Before IPO the firm will be engaged in an upwards Earnings Management). First, we divided our data into two main periods – period before IPO (from minus 4th period to the period of IPO) and the period after IPO (from plus 1st period to the plus 4th period from the IPO). We need to consider the difference between the levels of Earnings Management showed by the companies that have an IPO and their peer companies, that did not have an IPO at this period. For this we take the averages of the peer companies and of the companies that pursued an IPO (table 3):

Table 3

Pre IPO Accrual Based Earnings Management levels

Mean values of AEM from -4 quarter to 0 quarter	
Companies that pursued IPO	0,0363
Peer companies	-0,0156
Peer difference	0,0519
T-test p-value	0,0221

We see, that on average in the period before IPO the companies, that have an IPO in the recent quarters are indeed more likely to have upward Earnings Management, which supports our hypothesis. Moreover, not just the difference is substantial, the peers on average exhibit a downwards Earnings Management, not the upwards one. But here we should also note that the value is majorly close to zero and we can expect the overall population of companies act in exactly such a way – be engaged in Earnings Management to the degree that is close to zero or is a little bit on the negative side, as there could be some actions aimed at reducing the taxes. The upwards Earnings Management in the Russian case still exists but is connected to the specific events and short-term goals of the company. At the same time, even though this evidence is already significant, we can also see whether there are any differences to the behavior of firms after the IPO already took place (table 4):

Table 4

Post IPO Accrual Based Earnings Management levels

Mean values of AEM from +1 quarter to +4 quarter	
Companies that pursued IPO	0,0200
Peer companies	-0,0054
Peer difference	0,0254
T-test p-value	0,3789

Average degree of Accrual Based Earnings Management changed substantially when the IPO process was over and is now much closer to the zero. At the same time, it is still higher than zero and then the level shown by the peers, though not significantly. It could be due to the fact that the company needs to sustain the trust of investors and not just suddenly exhibit much worse results and not to show the market, that it has been managing its earnings around IPO. The difference between the firms that pursued an IPO and their peers narrowed and became insignificant and that

once again proves that Russian firms do indeed engage in upwards Earnings Management around IPO, as the difference was more substantial before the IPO.

When we analyze the Real Earnings Management, we see a different picture (table 5):

Table 5

Pre IPO Real Earnings Management levels

Mean values of REM from -4 quarter to 0 quarter	
Companies that pursued IPO	0,0021
Peer companies	-0,0016
Peer difference	0,0037
T-test p-value	0,8702

Even though the levels of REM seem to be higher and positive, they are too close to the ones, exhibited by the peer companies. The difference between these means is not statistically significant and we can state, that before IPO Russian firms were not engaging in Real Earnings Management. This result could be attributed to the size of the time period we used in our research – Real Earnings Management is relatively novel concept and maybe the firms at earlier years were not aware of the uses of this type of Earnings Management. Moreover, our previous findings show that there could be no need in exhibiting Real Earnings Management if the firms were already engaging in the Accrual Based ones. To better stress this point we also analyze the post-IPO levels of REM (table 6):

Table 6

Post IPO Real Earnings Management levels

Mean values of REM from +1 quarter to +4 quarter	
Companies that pursued IPO	-0,0050
Peer companies	-0,0019
Peer difference	-0,0031
T-test p-value	0,8493

The Real Earnings Management values after IPO changed their sign, signaling, that to a very minor extent the companies could be exhibiting Real Earnings Management before IPO. But at the same time the differences between peers are still insignificant and we cannot state that the Russian companies do indeed engage in Real Earnings Management around IPO. We cannot state

that these results deny the fact that firms on Russian market engage in Earnings Management around IPO, as the analysis based on Accrual Based Earnings Management proves otherwise and these two types of Earnings Management are interconnected and rarely are exhibited by companies together to the major extent in the one time period.

The analysis made on the whole dataset leads us to the following conclusion:

H1: Before IPO the firm will be engaged in an upwards Earnings Management – CONFIRMED

These results can be used during the financial analysis of the firms pursuing the IPO – the analysts now can reasonably expect the Russian firms to be engaged in Earnings Management at this time and thus have higher than actual results. To stabilize the financials the lowering multiplier should be applied. This can be useful for investors who now will consider that the results published by the company are likely to be higher than in reality – leading them to reconsider the invested sum or even the decision to invest in the particular company at all. Our findings are also applicable in the counterparty analysis – the managers should take into account whether the analyzed time period was during the IPO process, because the financial results at this time are likely to be manipulated with. Finally, it also signals the companies, seeking to pursue an IPO in the future, that the majority of the Russian companies were exhibiting Earnings Management and it can also be done by the company in question.

Before moving on to other hypothesis it is interesting to provide some more insights into our results. For example, it is interesting to see in what period do firms engage in Earnings Management the most (table 7):

Table 7

Earnings Management by quarters

AEM	-4q	-3q	-2q	-1q	0q
IPO firms	-0,0393	-0,0444	0,0237	0,0705	0,0643
Peers	-0,0426	0,0095	-0,0226	-0,0226	-0,0232
Peer difference	0,0033	-0,0539	0,0463	0,0931	0,0875
T-test p-value	0,8157	0,0473	0,0448	0,0096	0,0154

The results show that the companies on average begin the upwards Earnings Management around half a year before the IPO date, ramping up the manipulations during next quarters. The minus 4th and minus 3rd quarters even show the downward Earnings Management in the analyzed firms. This could be due to the fact that these companies may wanted to better signal to the market their growths in earnings or because the analyzed firms could be more prone to all forms of Earnings Management, particularly downwards Earnings Management likely for tax purposes in this case. We can also notice that in the IPO quarter companies exhibited lower levels of Earnings Management compared to the quarter right before it. This may be explained by the fact that when the IPO date is early in the quarter the company has less time to manage its earnings in this particular quarter. In addition to that the companies may be afraid to exhibit Earnings Management so close to the end of the IPO process. Although, this information is interesting, our research is not concerned with the questions of the detailed stages of IPO process and so we should not pay greater attention to this information. But at the same time these results confirmed that our decision to analyze the data by quarters rather than by years was not false, as we did manage to capture the differences between the quarters. And these insights also signal the financial analysts that the firms will likely have upwards Earnings Management half a year before IPO, which in turn influences their reports.

When testing the second hypothesis (H2: Firms listed in the markets outside of Russia will be less involved in Earnings Management) we split the data into two parts: one consists of the companies, that are listed only in Russia and the other of the companies that have any listing in the foreign market. This means that we considered the notions of dual listing in the way that if one of the markets belonged to the developed market, then this listing was considered to have an analyzed influence - stricter regulations in the listing process. We also considered different existing ways of listing, making sure that the listing market was selected appropriately. Then we applied the similar procedures of peers' analysis, except now we will not check the after IPO behavior. This hypothesis is aimed at comparing the degrees of Earnings Management between two different types of companies and hence we don't need to analyze how the firms behave after the IPO.

Table 8

Earnings Management by listing market

Mean values of AEM from -4 quarter to 0 quarter			
Companies with only Russian listing		Companies with foreign listing	
Companies that pursued IPO	0,0523	Companies that pursued IPO	0,0215

Peer companies	-0,0391	Peer companies	0,0188
Peer difference	0,0914	Peer difference	0,0027
T-test p-value	0,0178	T-test p-value	0,7946

It can be seen (table 8) that the levels of Earnings Management in the companies that are listed only in Russia are much greater than that of those firms that pursued foreign markets. At the same time the difference between the degrees of Accrual Based Earnings Management compared to the companies' peers is even bigger. This coincides with the notions provided in the literature review, that the process of listing in established markets is stricter and companies that pursue IPO there have lower degrees of Earnings Management, as the Russian financial market imposes less stricter rules.

In this context it is also valuable to check whether there were some interconnections between the decision of the company listing abroad and the peculiarities of its business. Primarily it is interesting for us to see, is there a possibility that the companies that were listing abroad had upwards Earnings Management not because of the factors concerning with the choice of the more developed market, but because the industry they belong to has this effect of Earnings Management around IPO. We presented the shares of industries in the number of companies, that obtained the foreign listing in the following table (table 9):

Table 9

Companies with foreign IPO by industry

Industry	Share in foreign IPO
Retail and consumer sector	10%
Chemicals and petrochemicals	10%
Power industry	10%
Metal and mining	25%
Multibusiness company	5%
Engineering	5%
Technologies, telecommunications and media	5%
Real estate and property development	10%
Oil and gas	10%
Transport and logistics	10%

Most of the companies in our dataset that were listed abroad were from the Metal and mining sphere. But this majority is far from being the vast one (one third being the most popular threshold for considering minor distribution effects) and looking at this distribution of the industries, we can conclude that there were no hidden effects of industry type, that influence the level of Earnings Management when we analyzed the impact of abroad listing. At the same time, it is worth mentioning, that there could exist other effects – the influence of the industry on the Earnings Management could be defined by other specific facts, that are embedded into peculiarities of operations of each industry. This is one of the reasons why we did not concentrate on the analysis of connections between Earnings Management and the industry type, as there could be a major number of externalities, that influence the characteristics of the analyzed firms, that are not directly related to the industry. And that would make the conclusions about the industry influence dubious. Nevertheless, with the balanced distribution of industry in our subset we may state that there are no major industry effects in our results. The same effects were verified for the impact of the time period, where we also confirmed that the distribution was even and thus the upward Earnings Management were exhibited due to the difference of Russian market listing process compared to the foreign one.

We showed that the difference of the degrees of Earnings Management in relation to the peers was higher for the companies, that pursued only the domestic listing in relation to the firms that were listing abroad. This way we can conclude that our second hypothesis was confirmed:

H2: Firms listed in the markets outside of Russia will be less involved in Earnings Management – CONFIRMED

These findings add to the previously established ones. The Russian firms are likely to be engaged in Earnings Management around IPO, but they are majorly less likely to do so if they pursue the foreign listing. This shows, that during the financial analysis of a firm that has a foreign listing in half a year, there should be used a much weaker lowering multiplicator, compared to other Russian firms that list domestically. For the company point of view the findings show that the decision to be engaged in Earnings Management when pursuing a listing abroad should be very well justified and the management should consider not exhibiting Earnings Management in this case at all.

Before moving on to the last hypothesis, let us again get into more details about the results we got from the Modified Jones model. It is interesting to analyze the time periods in our data, how different are the Earnings Management levels between the periods. We selected three main

periods, as is often the case when analyzing Russian market: 2003-2007, 2008-2013 and 2014-2018. Then we split the database into these periods and analyzed it (table 10):

Table 10

Earnings Management by time period

2003-2007		**2008-2013**		**2014-2018**	
IPO firms	0,0505	IPO firms	0,0269	IPO firms	0,0219
Peers	0,0381	Peers	0,0073	Peers	-0,1032
Peer difference	0,0124	Peer difference	0,0196	Peer difference	0,1252
T-test p-value	0,1469	T-test p-value	0,1341	T-test p-value	0,0048

Throughout the period the Earnings Management levels in the companies pursuing the IPO seem to be dropping. But at the same time the peer companies were exhibiting even lower degrees of Earnings Management with the passing years. This led to the companies pursuing IPO in the period of 2014-2018 having the greatest Earnings Management increase compared to the usual operations of their peers. We should note though, that the overall number of IPOs in this period was not major and thus these results could be skewed. Nevertheless, we cannot disprove this fact without new Russian firms pursuing the IPO and for now we may conclude that the investors and analysts can expect that in the relative future the Russian firms that will pursue an IPO could exhibit an upwards Earnings Management.

When testing our third hypothesis (H3: Firms with state ownership will be engaged in Earnings Management to a lower extent and have higher or equal degree of REM compared to the level of AEM) we split our results into two main groups – companies with the state control and those without it. The state control classifications in this case are represented by the state ownership. First, we will analyze the Accrual Based Earnings Management around IPO (table 11):

Table 11

Accrual Based Earnings Management by state-controlled firms

Mean values of AEM from -4 quarter to 0 quarter			
State-controlled companies		Companies without the state control	
Companies that pursued IPO	0,0436	Companies that pursued IPO	0,0295
Peer companies	-0,0164	Peer companies	-0,0174

Peer difference	0,0272	Peer difference	0,0121
T-test p-value	0,1186	T-test p-value	0,2793

Surprisingly enough, the degree of Earnings Management exhibited by the state-owned firms was higher both in the absolute values and by the values relative to the peers. At the same time, we checked whether it could be the case that firms with the existence of state control are more likely to be listed on the domestic market and that in turn affects the level of Accrual Based Earnings Management. Unfortunately, that is not the case here – 61 percent of firms with state ownership are listed in at least one foreign market. That goes against the hypothesis we provided. We may try to explain this fact by the specifics of Russian market. In the literature review we noted that companies with political connections may fear losing the advantages from such connections due to the fact that the government will abandon them when they engage in Earnings Management. This motivation could be lacking for the Russian firms – either they are not afraid of the government backing out, which in our opinion is most probably the case, or the benefits that the political connections in Russia provide are not so substantial for the companies, wanting to engage in Earnings Management around IPO. It could be interesting to build an entire research dedicated to this point to better understand whether our assumptions are indeed true.

We also have to examine the second part of the hypothesis, concerning the higher degrees of Real Earnings Management around IPO in the firms which are controlled by the state when comparing them to the Accrual Based Earnings Management (table 12):

Table 12

Real Earnings Management by state-controlled firms

Mean values of REM from -4 quarter to 0 quarter			
State-controlled companies		Companies without the state control	
Companies that pursued IPO	0,0686	Companies that pursued IPO	-0,0118
Peer companies	0,0553	Peer companies	-0,0163
Peer difference	0,0133	Peer difference	0,0045
T-test p-value	0,3629	T-test p-value	0,6247

Difference with AEM peer difference	-0,0138	Difference with AEM peer difference	-0,0077

Even though the absolute levels of Real Earnings management in state-owned companies are higher, the peer analysis shows that the difference is not so substantial and not significant. This way we cannot say that the state-controlled companies exhibit higher levels of Real Earnings Management. That is also true when comparing the levels of REM to the AEM – their levels are lower than that of Accrual Based Earnings Management. These results are not surprising, considering the previous finding - there is no motivation for the companies with political connections to engage in Real Earnings Management when they can still pursue Accrual Based Earnings Management.

We should also note that we analyzed the external influences on the state-owned companies, as we did with the previous hypothesis. The concerns about the influence of oil and gas industry were not proven – only 28% percent of the firms with state control were from that industry – and the distribution of the analyzed companies throughout the time period was even. This way, we can state that our third hypothesis was not confirmed:

H3: Firms with state ownership will be engaged in Earnings Management to a lower extent and have higher or equal degree of REM compared to the level of AEM – NOT CONFIRMED

It is also valuable to show the impact of the Earnings Management, whether or not it brings any benefits for the Russian company to be engaged in it around IPO. A number of articles dedicated to other emerging markets managed to prove the value of Earnings Management, but it nevertheless should also be done in the context of our work to better illustrate that fact for the companies in our dataset. To do so we obtained the historical monthly prices from Yahoo! Finance for Russian firms corresponding to the periods after their IPO. The data was limited to the period after 2010 to provide the results that are more applicable for the future use, showing the company that is considering to pursue an IPO the benefits of Earnings Management. Using the data, we calculated the returns, through the use of the following formula 4:

$$Return = Ln\left(\frac{P_t}{P_{t-1}}\right) = Ln(P_t) - Ln(P_{t-1}) \quad (4)$$

The returns provide more normalized and comparable values instead of just using the nominal share prices. But, naturally, they limit the number of available time periods, hence we will analyze the returns in the period from plus 1st quarter to the plus 4th quarter.

Table 13

Returns by quarters

Mean returns	**+1q**	**+2q**	**+3q**	**+4q**
IPO firms	-0,1031	0,0636	-0,1052	0,0138

Overall data (table 13) suggests that there exists the overvaluation effect for the Russian companies engaged in Earnings Management, as the returns are significantly negative. Due to the increased reported earnings the market players overvalue their investments, allowing the company to obtain more funding from the IPO. Afterwards, the market corrects the expectations, lowering the price of shares. These effects take place mostly in the first quarter after the IPO and after first half a year has passed. Not all of the quarters are characterized by the negative returns, but the overall return for the whole period was indeed negative on average. Even though the market in the end finally lowers the implied valuation of the company, the goal of the firms engaged in Earnings Management around IPO was completed – through such practices they managed to influence the market perception and in turn obtained increased funding.

We also split the dataset into 4 quartiles according to the performance of the company stock.

Table 14

Returns by quarters by quartiles

Mean returns	**+1q**	**+2q**	**+3q**	**+4q**
1st quartile	-0,3367	0,0366	-0,3227	-0,0510
2nd quartile	-0,1472	0,0746	-0,0739	-0,0794
3rd quartile	0,0387	0,0535	-0,1086	0,0416
4th quartile	0,0239	0,0920	0,0906	0,1252

This way we can see (table 14) that for the Russian firms with lower market performance the only positive quarter was the plus 2nd one, with the plus 1st being the most negative one, which signals that the IPO prospects were misaligned with the realities of the firm operations. For the companies belonging to the 3rd quartile the situation is different – the returns are negative only in the plus 3rd quarter from the IPO date. This fact indicates that it is likely for a Russian firm to have the Earnings Management detected after half year from the IPO date – the value of the negative returns still signals that there was an overvaluation effect present at the IPO. For the companies of the 4th quartile there were no periods with negative returns in the first year after their IPO. This discrepancy could be connected to a number of explanations. First of all, the companies in the 4th quartile had lower overall levels of Earnings Management, making it harder to detect by the market. This in turn leads either to the non-detection of the Earnings Management or the detection of it in the much later period. In this case the companies in question still benefited from exhibiting Earnings Management. But, secondly, it is possible, that the Earnings Management by the companies of 4th quartile was detected by the market prior to the IPO date, making the price at IPO lower and thus no overvaluation happened. This explanation, although should still be considered, is less possible than the other one. The overall levels of Earnings Management for these companies were not major and the primary listing market was MICEX, which makes the detection of the manipulations by the firms less plausible. Additionally, even if the case of the Earnings Management detection before IPO was at play, this only affected one fourth of the companies. This still underlines the benefits of the companies engaging in Earnings Management around IPO.

Such an approach of measuring the benefits of Earnings Management is not the complete one. First of all, it ignores some drawbacks that may arise from regulations, but it is not so crucial in the case of developing markets, as the regulations are much less strict and there are little drawbacks from being engaged in Earnings Management. Secondly, the use of different methodology could provide more accurate results. Such methodologies may include the analysis of the IPO processes, concentrated on the expected funding amounts at different stages and the relative degree of Earnings Management at corresponding period and also the case study analysis, particularly dedicated to the most modern IPOs to provide applicable results. These methodologies would imply different data collection approaches, that highly deviate from the ones used in our research. This, combined with the fact, that the analysis of the value behind Earnings Management is not the vocal point of our topic, makes those approaches unnecessary in our case. Nevertheless, the aforementioned statistical inferences better illustrate the practical importance of our work to the companies – if the Russian firm is pursuing an IPO it could consider engaging in Earnings Management, as it is both provides needed benefits and is the common activity in other Russian

companies. Moreover, if the Russian company decides to manage its earnings it should do so through the manipulations with its receivables, as it was proven by Nikulin and Sviridov (2019) that Earnings Management on the Russian market in majority is conducted through the abnormal values of receivables.

In the empirical part of our research we started from running the Modified Jones and Roychowdhurry models in the Stata environment to obtain the residuals of these models. These residuals serve as a proxy for both types of Earnings Management. Then we proceeded to analyze these results via the peer analysis and data splitting. In relation to the stated hypothesis we got the following results:

H1: Before IPO the firm will be engaged in an upwards Earnings Management – CONFIRMED

H2: Firms listed in the markets outside of Russia will be less involved in Earnings Management – CONFIRMED

H3: Firms with state ownership will be engaged in Earnings Management to a lower extent and have higher or equal degree of REM compared to the level of AEM – NOT CONFIRMED

CONCLUSION

In our work we were concerned with the analysis of the Earnings Management in Russian firms around IPO. The main goal was to prove the existence of upwards Earnings Management in Russian firms around IPO. Additionally, during the literature review we established two other aspects of Earnings Management around IPO that we later analyzed: influence of foreign listing and of the state control. We used well-established in this sphere of research models – Modified Jones Model and Roychowdhurry model. The data we used was distributed across the period of 2003-2018 and concerned the quarterly data. To make conclusions we employed the peer analysis to compare the levels of Earnings Management exhibited by the companies in question to the firms that are comparable with them. The peers were selected with the use of Starmine algorithms included into the Thomson Reuters Eikon database, which are based on the timeseries data covering the majority of the company lifetime.

We managed to prove that the Russian firms around IPO do indeed engage in upwards Earnings Management. These results are consistent with the findings related to other developing countries, but they were not previously well established for the Russian market. Our results could be used in the financial analysis when making investment decisions, analyzing counterparty contracts or in other researches. For example, investors should expect financials of Russian firms to be higher than in reality and thus they may want to pledge lower sums of investments or not invest at all. Other companies when choosing the companies that they are going to work with often analyze their financials to identify the risks. Our findings show that when they do this analysis, they should check whether the counterparty company is pursuing listing and if that is the case then they should apply the lowering multiplier to address the upwards Earnings Management. These results are also supported by the fact that companies that pursued IPO in recent years exhibited a growth in Earnings Management levels compared to their peers, so we can expect the same behavior in the future cases. Other actors that will benefit from the results of our work are the Russian companies aiming to pursue an IPO. Through our analysis they can see that the Russian market is characterized by higher levels of Earnings Management around IPO. This way, they can justify their decision to exhibit Earnings Management when pursuing the IPO by the fact, that other firms do it and they are getting away with it. At the same time, in our literature review part we provide evidence, that Accrual Based Earnings Management does indeed influence the market players and provides benefit for the company, that engages in it, further proving that the Russian companies can manage their earnings relatively freely. In our empirical part we also show that there exist the overvaluation effects at the IPO period, which also signals that the Earnings Management actions successfully influenced the perception of the market.

The hypothesis concerning the increased upwards Earnings Management in firms, that were listing only domestically was also confirmed. As explained by other authors this is due to stricter rules of listing in developed markets, when comparing them to the developing ones, such as Russian market in our case. We also made sure that there were no other reasonings behind these results – we confirmed that the foreign listed firms were not from the one particular industry and that the time distribution of those companies was even. The fact, that firms that are listing abroad exhibit lower degrees of Earnings Management compared to those that list at the home market adds to the previous findings. This allows analysts to better apply the lowering multiplicators by classifying the firms between each other. In other words, if they know that a firm is listing on a foreign market, they can expect the results of their financial analysis to be closer to the real situation in the analyzed company. The companies considering an IPO should pay great attention in justifying their decision to engage in Earnings Management when listing abroad – this behavior is not common, as it could be detected more easily, and such actions should be done more elaborately and discreetly.

We did not manage to proof that Russian firms with the control by the state engage in Earnings Management around IPO to a lesser extent. They exhibit relatively the same levels of AEM, sometimes even higher, as do the firms without such control. Naturally, the second assumption of the third hypothesis was also not proven – state-owned firms did not have higher share of Real Earnings Management, as they still were able to engage in Accrual Based Earnings Management and, hence, there was no motives to switch their behavior. The results concerning the Real Earnings Management are consistent across all of our hypothesis – Russian companies do not significantly engage in REM activities around IPO. The plausible explanations may come from the benefits that the firms get from the state, as other authors note. In our case the firms do not fear to lose these benefits either because they are not that crucial for the company or the managers do not expect the state to back out and stop providing these benefits. This means that when analyzing the financials of the companies around IPO market players can expect the same upwards Earnings Management in firms with the state ownership and hence there is no need to make such a distinction. We should also note here that this hypothesis was not the major aim of our research, further works using other methodologies may be able to shed more light on this topic.

The majority of the Earnings Management literature is devoted to the developed countries and only a small amount of them is written for the developing ones. Even smaller number of public articles is devoted to the Russian market. Our research narrows down this research gap and shows that in the majority findings related to other emerging markets also apply for the Russian case. Our work was conducted on the quarterly data, compared to the yearly one, commonly used by other

researchers. The research took into account the Real Earnings Management – a relatively new research direction in the sphere of Earnings Management, that was not previously widely applied in regards to the behavior of Russian firms around IPO. We also analyzed how Earnings Management differ between the firms based on the market of listing and on the existence of the state control. Both these factors are relatively unresearched and are specifically not covered in the Russian conditions – the majority of articles that analyze these facts are devoted to other countries, primarily China. We also tried to consider all the interconnections to lower the bias of our conclusions – for example we checked for the influences of industry affiliation and the time period. This way we believe that our research covers the existing research gap and provides strong results for future practical use.

Our research can be used by the financial analysts to apply lowering multiplicators in the cased of Russian firms around IPO time periods, as they are highly likely to present better than actual statements. This notion is specifically applied in the investment's decisions, but it is also useful in the other actions, such as counterparty analysis. The used multiplicator should be majorly lower when the Russian firm in question pursues listing on the developed market, when compared to the firms listing domestically on the Moscow Exchange. Furthermore, our research also provides the insights for the companies on the Russian market, seeking to pursue an IPO. Although, the number of such beneficiaries is relatively low, these results are important, nonetheless. As in their majority the Russian firms are engaging in Earnings Management around IPO, and this fact still holds in the most recent years, the Russian company seeking to pursue an IPO should not be afraid of also exhibiting Earnings Management behaviors. Such actions can be done through the manipulation of Receivables, as it is most common on the Russian market. Furthermore, we provide the evidence that Earnings Management indeed caused the overvaluation, allowing the company to obtain more funding during an IPO, the fact that further underlines our proposition to Russian companies to be engaged in Earnings Management around IPO.

We believe that the research dedicated to finding out the effectiveness of the use of the Extended Modified Jones Model in the context of Russian market could be a really interesting one and we suggest it as a direction for further research. There are articles, that state that such a model works better for the developing market in comparison with the basic Modified Jones Model and it could be valuable to see whether it is also true for Russian firms. This work will involve different methodology, that is mostly focused on the data collection techniques. This is primarily due to the fact that the Extended Modified Jones Model requires difficult to gather data such as retirement benefits expenses. Another research approach that can extend the results of our work involves higher concentration on the Earnings Management within firms with political connections in

Russia. It was not a primary hypothesis in our case and other methods of analysis, particularly the ones concentrated on the analysis of the fear of losing the benefits from the state involvement and on the pre-IPO political relations, might be valuable in this direction of research. Between these two directions we believe that the most promising one is the one concerning the analysis of Extended Modified Jones Model applicability to the Russian market, as the research gap in this case is not covered at all.

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APPENDIX

Appendix 1 List of companies

En+ Group	OGK-2	ASTRAGRUZTRANS
Network of hypermarkets Lenta (Tape) (IPO)	FESH	FEDERALNY TSENTR LOGISTIKI
Polymetal International plc	Armada	Belon
PhosAgro	Rosinter Restaurants Holding	Semirara Mining and Power Corporation
Global Ports Investments Pic	PIK Group	Diod
Yandex	Pharmstandard	NIKOLSKI RYBORAZVODNY ZAVOD IM. V. P. VRASSKOGO
LenSpetsSMU	World Trade Centers Association	Nakhodkinskaya Baza Aktivnogo Morskogo Rybolovstva
GMS Group	TMK	NIKITOVSKI RYBKHOZ
Mail.ru	Raspadskaya	Raspadskaya
O'Key	Rosneft	Alkon
RUSAL	Cherkizovo Group	Abrau-Durso
RusHydro	Magnit	Kizlyarskiy konyachniy zavod
Sistema-Hals	SOLLERS	Lenta
Sitronics	Pava	Dal'nevostochnoye Morskoye Parokhodstvo
Severstal	Open Investments	PODPOROZHSKI PORT
NLMK	Irkut	CHTPZ
Sistema	Belon	Severskiy Trubnyi Zavod
MTS	Akron	NK Lukoil
OMZ	Kazanorgsintez	Ostankinskiy myasopererabatyvayushchiy kombinat
Kuzbassenergo	Inter R EES	Russkaya Akvakul'tura
Norilsk Nickel	Mosenergo	VELIKOLUKSKI MYASOKOMBINAT
Globaltruck Management	Novolipetsk Steel	NP Korporatsiya Irkut
Children's World	GMK Noril'skiy Nikel'	NOVOUZENSKOE AVTOTRANSPORTNOE PREDPRIYATIE
Russneft (Russian oil)	Rostelekom	KAMAZ
Future financial group	Bashinformsvyaz'	Novorossiyskiy Kombinat Khleboproduktov

Novorossiysk combine of bread products (NKHP)	Tsentral'nyi Telegraf	MKS-AGRO ZK
United Carriage Company (UCC)	NPK OVK	VASO
ALROSA	Novorossiyskiy Morskoy Torgovyi Port	KAZANSKI VERTOLETNY ZAVOD
JSC "Live Office"	Rossneft	PROGRESS AAK
Moscow Exchange	Tatneft	QIWI
Multisistema	Surgutneftegaz	Selecta
Megaphone	PAVA	MD Medical Group Investments
Pharmsintez	NOGINSKI KHLEBOKOMBINAT	Polyus
DIOD	MKKHP	Globaltrans Investment
Human Stem Cell Institute	OEVRZ	Enel Rossiya PAO
LSR Group	Severstal	Yunipro
Magnitogorsk Iron & Steel Works	Mobil'nye Telesistemy	Inter RAO EES
Novatek	Vimpelcom	Tattelekom
Pharmacy Chain 36.6	Pharmstandard	Moskovskaya Gorodskaya Telefonnaya Set'
Mostotrest	FARMIMEKS	ANK Bashneft' PAO
TransContainer	PROTEK	Buryatzoloto
Kuzbass fuel company	Farmsintez	Lenozoloto
PROTEK	Hals development	Seligdar
Russian Sea (IPO)	Ingrad	Ros Agro
Mechel	Gazprom Neft'	Transneft'
RBC Information System / SPO-1	Tatneft'	Chelyabinskiy Truboprokatnyi Zavod PAO
Sinergy	NK Rosneft'	TGK-1
MVideo	GSI	Dixy Group
Novorossiysk Commercial Sea Port	KALUGATRANSMOST	X5 Retail Group NV
Uralkali	OGK-3	MKF Krasnyi Oktyabr'