St Petersburg University Graduate School of Management Master in Management

CEO CHARACTERISTICS AND COMPANY FINANCIAL PERFORMANCE

Master's Thesis by the 2nd year student Concentration — Management Valeriia Kurdiumova

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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

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АННОТАЦИЯ

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Год	2020
Научный руководитель	Ильина Юлия Борисовна
Описание цели, задач и основных	Большое количество исследований и
результатов	практики корпоративного управления
	свидетельствуют, что генеральный
	директор оказывает значимое влияние на
	финансовые результаты компании.
	Целью данной магистерской диссертации
	является выявление взаимосвязи между
	характеристиками генерального директора
	и финансовыми результатами компаний.
	Для достижения данной цели были
	проанализированы особенности
	корпоративного управления в России. Кроме того, был проведен анализ
	существующей литературы на тему
	корпоративного управления и взаимосвязи
	характеристик генеральных директоров и
	финансовой результативности компаний.
	На основе обзора литературы были
	сформулированы гипотезы исследования.
	Были построены эмпирические модели, с
	помощью которых было осуществлено
	тестирование гипотез, и выявлена
	взаимосвязь между характеристиками
	генеральных директоров и финансовой
	результативностью компаний. На основе
	полученных результатов были
	сформулированы практические
	рекомендации. По результатам
	исследования можно сделать вывод о том,
	что такие характеристики генеральных
	директоров как возраст, образование, опыт,
	срок пребывания на должности, занятость,
	политические связи имеют взаимосвязь с
	финансовой результативностью компании,
	измеренной с помощью таких финансовых
IC	показателей, как ROA, ROE, EPS и DPS.
Ключевые слова	Корпоративное управление, характеристики
	генеральных директоров, финансовая
	результативность, российские компании

ABSTRACT

Master Student's Name	Valeria V. Kurdiumova	
Master Thesis Title	CEO Characteristics and Company Financial	
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Faculty	Graduate School of Management	
Main field of study	38.04.02 "Management"	
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Year	2020	
Academic Advisor's Name	Yulia B. Ilina	
Description of the goal, tasks and main	Numerous academic researches and corporate	
results	governance practices have proved that CEO's	
	role is crucial for financial results of the	
	companies.	
	The goal of the thesis is to identify the	
	relationship between CEO characteristics and	
	company financial performance. To achieve	
	this goal the practices of corporate governance	
	in Russia have been studied. Moreover, the	
	literature review on the topic of corporate	
	governance and influence of CEO	
	characteristics on financial results of the	
	companies was conducted to formulate	
	hypotheses of the study. Empirical models	
	have been built in order to test hypotheses and	
	obtain results on the existence of the	
	relationship between CEO characteristics and	
	company financial performance. Finally,	
	managerial implications have been formulated	
	based on the results of the empirical study.	
	The study suggests that there is a relationship	
	between such CEO characteristics as age,	
	education, experience, tenure, busyness,	
	political connections and financial	
	performance of the companies measured by	
	ROA, ROE, EPS and DPS.	
Keywords	Corporate governance, CEO characteristics,	
	financial performance, Russian companies	

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INTRODUCTION

Performance of the companies is highly dependent on the effective corporate governance system. This conclusion has been made by numerous researchers while analyzing the role of corporate governance. Main results of the studies indicate that corporate governance mechanisms can significantly reduce agency problem and improve firm efficiency.

Company's reputation is critical corporate asset that is crucial for achieving competitive success [Gray & Balmer, 1998]. CEO of the company directly influences firm's reputation by setting and fulfilling its strategic goals and together with top management undertaking steps for development. However, decisions of CEO can both improve reputation or ruin it.

Personal characteristics and the experiences of CEO affect company's vision and the development of corporate reputation [Balmer, 2001]. Hence, new CEO is able to affect greatly the future prospects of the company and outcomes of its performance.

Precise attention has been paid in recent times to the analysis of Board of Directors' role in company performance. CEO's influence has been studied as well; however, the pool of studies devoted to this issue is smaller. Nevertheless, results of these studies could bring important implications for the companies since aforementioned representatives are chosen based on different internal characteristics, previous experience and other significant features. Hence, influence of each characteristic should be carefully analyzed and later thoroughly evaluated by the company.

'Upper-echelon' theory developed by Hambrick and Mason in 1984 suggests that top managers influence significantly organizational outcomes. It happens primarily because executives' characteristics such as gender, age, values, experience, background and other influence the way they interpret situations and make choices. Therefore, organizational outcomes could be partially predicted by managerial background characteristics.

The characteristics of executives of Russian companies and their influence on firm's performance have been studied by several academics. In previous researches among the following traits were analyzed most often: gender, age, tenure and experience. However, the results of the studies are sometimes controversial and mostly outdated. Further, some characteristics of Russian CEOs were investigated deeper based on the research of Russian companies while others did not receive proper attention, such as political connections.

As a result, the research gap was identified and it was determined that a new research based on present data is required where particular characteristics of CEOs will be investigated with precise attention. The following *research questions* were formulated: does a relationship between CEO characteristics and financial performance of the company exist? Which CEO characteristics matter most for company financial performance?

The goal of the study is to identify the relationship between CEO characteristics and company financial performance.

In order to achieve the goal of the study and answer the research questions the following objectives were formulated:

- To analyze existing foreign and Russian literature on the topic of relationship between CEO characteristics and companies' financial performance;
- To formulate hypothesis for the empirical study based on the literature review;
- To conduct empirical study and test developed hypothesis;
- To make conclusions and formulate recommendations based on the results of the study.

The methodology of the study is based on the regression analysis where the dependent variables include such accounting-based measures as ROA, ROE, EPS and DPS and independent variables are represented by different characteristics of CEOs of Russian public companies. Four models are built in order to establish relationships and provide implications.

In this paper, both theoretical and practical contributions are expected to be made. The main theoretical value of this research is to find evidence whether relationship between specific characteristics of Russian CEOs and financial performance of the companies they manage exist and establish direction of the relationships. Practical implications are formulated in the form of guidelines that are expected to help stakeholders choose appropriate CEO in order to satisfy objectives of the company.

Structure of this paper include introduction, two main chapters, conclusion and appendices. The first chapter is theoretical one and includes analysis of corporate governance theories, Russian practices of corporate governance, the role and functions of CEO and literature review of studies that investigate relationship between CEO characteristics and firm financial performance. Based on the literature review hypothesis are formulated in the first chapter.

The second chapter is devoted to the empirical study that is based on the econometric regression model helping to identify relationships between CEO characteristics and company financial performance. The results of the empirical study are interpreted and translated into practical recommendations for companies' executives and board members. In the end of the chapter findings and discussions, managerial implications and research limitations are formulated.

CHAPTER 1. LITERATURE REVIEW

1.1 Corporate governance: theoretical framework and Russian practices

Corporate governance is a subject of a great importance for corporations, actors of business ecosystem and society as a whole. Concept of corporate governance is crucial for public companies where large shareholders are not engaged in the day-to-day operations and have no direct access to inside information. Framework of corporate governance defines the responsibilities of the parties involved and sets system of rules, practices, and processes by which a firm is directed and controlled.

The concept of corporate governance has been a key topic of many academic researches in recent years. Initially several aspects of corporate governance were analyzed in academic works of [Berle and Means, 1932], [Jensen and Meckling, 1976] where the theory of ownership and control separation was developed. The theory claims that shareholders delegate decision-making and management of the company to managers who do not have ownership in the company.

Hart in his work suggested that corporate governance issues take place in an organization when two conditions are present [Hart, 1995]. First, there should be an agency problem, or conflict of interest, involving members of the organization (owners, managers, workers or consumers). Second, transaction costs are such that this agency problem cannot be dealt with through a contract.

In the research of [John and Senbet, 1998] authors stated that corporate governance deals with mechanisms by which stakeholders of the corporation exercise control over corporate insiders and management such that their interests are protected.

Corporate governance refers to the structures and processes for the direction and control of companies. In 1999 the concept of corporate governance was introduced by the Organization for Economic Co-operation and Development (OECD). According to OECD, corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined.

Nowadays successful implementation of principles of the corporate governance is of a great importance for the institutional development of emerging economies, as well as for their stable and sustained economic growth [Clarke, 2015]. Good corporate governance practices result in higher firm's market value, lower cost of funds and higher profitability [Black, Jang & Kim, 2006; Claessen, 2006].

The failure of corporate control in organizations leads to the wrong decisions of managers and the inability to attract debt financing. These issues decrease internal productivity and growth and development opportunities of the company. Aforementioned issues are especially actual for emerging countries of Central and Eastern Europe presumably due to the late development of the concept of corporate governance in these countries [Bergloef and Von Thadden, 1999].

Good corporate governance decreases emerging market vulnerability to financial crises, reinforces property rights, reduces transaction costs and the cost of capital, and leads to capital market development. It increases economic value added of firms, results in higher productivity, lower risk of systemic financial failures for countries. Weak corporate governance frameworks reduce investor confidence, and can discourage outside investment. [The World Bank]

Benefits of good corporate governance include higher level of transparency, maximization of value for the stakeholders, reputation improvement that results in trust of the investors, customers and the community at large, decrease of risks of corruption and mismanagement in the company and fulfillment of good ethical practices by employees that lead to avoidance of excess wastage of company resources.

Good corporate governance practices help improve market liquidity. Decrease of information asymmetries between corporate insiders and outsiders improves corporate governance and investor protection, encourages trading and thereby improves market liquidity.

Analysis of corporate governance practices relates to another important issue – role of Chief Executive Officer (CEO) in company financial results and overall success or failures. After the global financial crisis companies became more concerned about qualities of executives and started investigate more deeply interrelations between their personal traits and company results.

Among first researchers who attempted to investigate influence of top managers on company performance were [Hambrick and Mason, 1984]. In their work scientists formulated the idea of the 'upper-echelon' theory. Theory proposes that members of the so-called 'upper-echelon' (top managers) influence organizational outcomes. It happens primarily because executives' characteristics such as gender, age, values, experience, background and other influence the way they interpret situations and make choices. Therefore, organizational outcomes could be partially predicted by managerial background characteristics. 'Upper echelon' characteristics included such characteristics as age, functional truck, other career experiences, education, socioeconomic roots and others. Organizational outcomes and choices were specified as the following possible results as product innovation, unrelated diversification, acquisition, backward integration, financial leverage, administrative complexity and others. Hence, decisions taken regarding mentioned choices are reflected further in company financial, market, social and innovation performance. The theory was further reviewed and investigated in the studies of [Carpenter et.al, 2004; Finkelstein

et.al, 2009]. Authors of work [Carpenter et.al, 2004] in their research added mediators and moderators of top management team effects such as power, team processes, integration, incentives, and discretion to the model.

The concept of corporate governance has become widespread in Russia since the beginning of its transition to the market economy and privatization process. In recent years government has enhanced the legal and policy framework and Russian companies have improved their financial and ownership transparency that led to the improvements in corporate governance environment in Russia. [The World Bank]

According to the World Bank's assessment in 2018 Russia was ranked 35th among other countries in the world in terms of ease of doing business. Ten years ago, in 2008, Russia was ranked 106th. This change indicates improvements in Russian business environment.

Among the recent major changes and upgrades made by the government are modifications of The Law on Joint Stock Companies, The Securities Law and other regulations. According to the 2017 Russian Corporate Governance Roundtable, hosted by the Moscow Exchange and the OECD, Russia is close to having a law approved for majority shareholders' responsibilities to be shifted to boards of directors, so as to make CEOs more accountable to the boards. Additional reforms are being developed to make audit committees mandatory and to make disclosure more consistent and comprehensive [OECD, 2017].

However, at the same time it is possible to identify different problematic issues related to the corporate governance in Russian companies. First of all, market of corporate control is not fully developed yet and has several problematic issues. Russian economy could be characterized as quite unstable with great number of economic shocks and periodical crises that lead to certain difficulties for the normal functioning of companies. Russian corporate market often experiences significant changes in legislation that makes companies regularly adjust their policies and governance practices to new amendments.

Slow development of market institutions, low standards of observing minority shareholders rights, difficulties in access long-term bank loans have led to the fact that capital market and market of corporate control play a secondary role in the corporate governance system in Russia.

The dominant mechanism of corporate governance in Russia is the ownership structure which is characterized by relatively high level of concentration resulting in exercising control over the company by the dominant owner or by a consolidated group of such owners. [Fiedorczuk M. and Grabowiecki J., 2016]

1.2 Chief Executive Officer: responsibilities and role in Russian companies

Chief executive officer (CEO) is the highest-ranking executive in a company. CEO is responsible for coordinating effective operating, making major corporate decisions, managing resources of a company, acting as the main point of communication between the board of directors and corporate operations, and being the public face of the company.

Top management labor market is quite young in Russia and workforce differs from foreign labor markets in certain characteristics. However, nowadays there is a tendency of getting international education and work experience abroad for Russian top-management that decrease those differences step by step,

The average age of CEO in Russia is 45-50 years, while in foreign countries average age equals to 54 years. Russian CEOs are quite young and have strong competences in corporate finance and started his career in consulting or financial organization. Russian top managers rely primarily on analytical skills, however, recently leaders started to focus on soft skills and abilities to consult and build strong team became more valuable.

At the same time, foreign CEOs first of all emphasize in their business profiles such characteristics as leadership, teamwork, new product development and sales. Differences are related to the fact that in the past 5-10 years Russian companies grew mainly through mergers and acquisitions of assets, while Western companies grew through innovations and diversification in new markets [Vedomosti, 2017].

Most often, Russian CEOs come from the following functions: financial (23%), commercial (16%), and engineering (14%). Most often CEOs stay loyal to their industry and specialization, however, about 23% of managers changed the industry when they moved to the post of CEO. This means that in the event of a cross-industrial or functional transition, the manager's hard and soft skills outweighed his long experience in a particular industry.

Table 1. CEOs types description

Type	Description			
CEO-Financier	One of the most popular type of Russian CEOs. First of all, the reason for that is related t			
	changes in the country's economy. A competent leader with experience in the financial			
	sector is in high demand during times of tight budget control and during the optimization			
	period where active risk management is necessary [Forbes, 2018].			
CEO-Merchant	The second popular type of executive, who becomes especially demanded when the			
	market is growing. This type of CEO chooses aggressive growing strategies and is prone			
	to risk. In recent years CEOs with commercial function are in high demand in industrial			
	and transport sectors, as well as in retail and financial ones.			

CEO-Engineer	Could be distinguished by his extensive scientific knowledge and tight connection with the				
	industry. Such CEOs become demanded in other industries when technological				
	reorganization of the company is needed. In recent time the demand for executives with				
	engineering background has grown due to the rapid technological development in the				
	world. Traditionally such CEOs are in demand in industrial and transport sectors, and,				
	since recent time, in banking and commerce.				
CEO-Official	A type of executive who has a wide network of contacts in government, understands the				
	processes taking place in the public sector, and can apply an administrative resource. Such				
	CEOs are extremely necessary when the company enters international markets and				
	landscape requires radical changes in order to expand the scope of activities. Recently				
	executives with political background have moved to financial sector. Traditionally such				
	CEOs are in demand in the most dynamically developing companies at the moment.				
CEO-HR	Is a leader who feels the atmosphere in the team and is able to manage people better than				
	processes. The company needs this executive when it is necessary to solve global				
	personnel issues, to carry out vertical and horizontal rearrangement of personnel.				
CEO-Innovator	Is a leader who is very well informed about peculiarities of technological processes. It can				
	be an IT director, vice president of strategic digital partnerships or business development				
	director of an Internet company. A common feature for them is a broad interest in				
	advanced technologies and innovations and desire to promote flagship solutions in the				
	industry.				

[Source: Forbes, 2018]

Top managers often have to respond to attacks of shareholders, with the most aggressive critics being minority shareholders. Through the court, they are trying to increase the value of their shares or force the company to redeem their stake. Sometimes shareholders' claims are hard to predict. Consequently, insurance against their own mistakes and dissatisfaction of shareholders gain popularity among Russian top managers. During the last year payments under the so-called director's policies have increased four to five times. Most often expats ask to include such insurance in their contract, as Russian business environment seems to be extremely unpredictable for them [Kommersant, 2019].

Moreover, due to turbulent business environment in Russia top managers feel insecure according to recent research of HeadHunter. Now markets are stagnating and company owners are demanding that managers will increase their business profitability by cutting costs and using new technologies and techniques, such as maximizing cumulative margins. Shareholders expect that top manager will have systemic thinking, the ability to promote unusual views and ideas, effectively manage teams, introduce innovations, and will be able to bring the company to global markets. This work is complicated, unusual for most managers in Russia and does not promise quick returns, so it's difficult to conduct a dialogue with the owners and expect a big increase in remuneration in the near future [Vedomosti, 2017].

Concerning gender diversity, the proportion of women in top positions in Russia (47%) is higher than abroad according to the research of Grant Thornton. For example, in Germany this proportion equals to 18%, and in Japan - to 7%. In Russia female executives are presented mostly in the media sector, as well as in finance and communications. However, in the industrial sector women generally do not occupy executive positions [Vedomosti, 2018].

Normally in Russia top managers make transitions from one industry to another because of short-term business goals. Russian companies often hire specialists from other industries in order to fulfill a specific task. The greatest number of such transitions could be observed in the consumer sector. Executives from this sector are in high demand in telecommunications, banking, retail, and even in industry. The reason behind that is related to the fact that for a long period of time international companies have been working in the Russian consumer sector, and executives have adopted their successful managerial approaches [Vedomosti, 2018].

Regarding companies with state participation, generally CEOs of these companies are connected with government based on current work on political positions, previous experience of work in governmental authorities, connections with friends and relatives who work in government.

According to the research of [Dolgopyatova et.al, 2009], by 2005 a certain part of Russian CEOs of industrial enterprises consisted of former "red executives" and those who came from government bureaucracy. Further, authors found out that the share of politically-connected CEOs in companies with more than 1000 employees is higher by 11% since in 1990-2000s bureaucracy allowed officials to acquire the most attractive enterprises.

1.3 Financial performance measures

Financial performance is considered to be an important part of evaluation of company overall performance. Financial planning and control constitute an essential part of the overall management process. A central part of the finance function is the establishment of precisely what the financial constraints are and how the proposed operating plans impact upon them. [Kennerley & Neely, 2003]

Companies measure performance to guarantee that they are operating as effectively as possible, and also to find out whether a firm is achieving its goals.

A number of researches have been conducted in order to determine which factors in corporate governance affect the financial performance of a firm. In different researches different measures have been proposed as the ways to measure financial performance. Generally, researchers measure performance objectively or subjectively, where objective measurements depend upon profit and financial data, and subjective measures rely on managerial assessments.

Sometimes both approaches are used in order to enhance the reliability of results. [Dess and Robinson, 1984]

Basically, measures of financial performance could be divided into two groups – accounting-based measures and market-based measures. Researchers generally conceptualize accounting measures as reflections of past or short-term financial performance, and market measures as reflections of future or long-term financial performance [Gentry et.al, 2010]. However, there is no universal guideline of choosing the appropriate measure and various options exist.

Accounting-based financial measures

Accounting-based financial measures are calculated based on data obtained from financial statements. Accounting-based measures could be divided into two groups – absolute measures of profitability (Net Income, EBIT, EBITDA etc.) and relative measures that are calculated as the ratio of profit indicator to base indicator, such as assets, equity, investments (ROA, ROE, ROI etc.). Financial ratios could be used not only to evaluate performance of one specific company, but also to compare it with competitors and other companies. Therefore, in this paper financial ratios will be described in detail next and subsequently used in the empirical part of the work.

Return on Assets (ROA)

ROA is a ratio used to measure return on company's assets. ROA enables to evaluate operating performance of the company relative to investments made without considering whether company used debt or equity capital to finance the investments [Stickney and Brown, 1998]. [Brealey et.al, 2006] suggested the following formula for calculating ROA.

$$ROA = \frac{After\ tax\ interest + Net\ income}{Total\ Assets}$$

The higher the number of the ratio, the more efficient is company's management in operating assets. ROA depends on the industry where company is operating and can vary across different industries.

Return on Equity (ROE)

ROE is a ratio that measures profitability for shareholders and shows how much profit each dollar of common stockholders' equity generates. The ratio is calculated as net income divided by equity.

$$ROE = \frac{Net\ income}{Equity}$$

When comparing company's ROE to industry average, it is possible to identify how efficiently the company management is using the financing from equity to grow the business [Nobes and Alexander, 2001].

Return on Invested Capital

ROIC allows investors estimate return on investments before making decisions on business financing and evaluate how good company is at turning capital into profit.

$$ROIC = \frac{After\ tax\ interest + Net\ Income}{Invested\ Capital}$$

Comparing a company's return on invested capital with its weighted average cost of capital (WACC) reveals whether invested capital is being used effectively and whether the company is creating value.

Earnings per Share (EPS)

EPS ratio indicates portion of profit allocated to every outstanding share of common stock and helps investors take individual investment decisions.

$$EPS = \frac{Net\ income - Preferred\ Dividends}{Weighted\ average\ shares\ outstanding}$$

Higher EPS significates more value because investors will pay more for a company with higher profits [Besley and Brigham, 2006].

Dividend per Share (DPS)

DPS ratio is the sum of declared dividends issued by a company for every ordinary share outstanding.

$$DPS = \frac{Total\ dividend\ paid\ out\ over\ a\ period}{Weighted\ average\ shares\ outstanding}$$

DPS ratio allows shareholders calculate their dividend payments over a period of time [Brealey et.al, 2006].

Accounting-based financial measures reflects current status of company performance and are not influenced by future changes. However, these indicators could be influenced by differences in accounting practices and chosen methods, for example, principles of income and expenses recognition are determined by company's accounting policies which could be different for different companies.

Market-based financial measures

Market-based financial measures are calculated based both on data from financial statements and market data. Market ratios provide necessary information about relevance of the investment in the firm and indicate how well a firm is performing.

Tobin's Q

Tobin's Q ratio was introduced in 1968 by James Tobin and William Brainard and is extensively used in the financial literature as a proxy for future investment opportunities.

Tobin's Q represents the ratio of the market value of a firm's outstanding shares (share capital) to the replacement cost of the firm's physical assets (replacement cost of the share capital) [Tobin and Brainard, 1977].

$$Tobin's Q = \frac{Market \ value \ of \ the \ company}{Replacement \ cost \ of \ assets}$$

Tobin's Q greater than one means stock is overvalued. Tobin's Q less than one means stock is undervalued. When Tobin's Q is equal to one, it means stock is fairly valued.

The ratio has been used in various researches devoted to different issues. For example, in research related to investment and diversification [Jose, Nichols, and Stevens, 1986], to explain the relationship between managerial ownership and firm value [McConnell and Servaes, 1990], to measure monopoly power and to examine the relationship between market structure and profitability [Salinger, 1984] and many others.

Market-to-Book Ratio

Market to book value ratio indicates value added for each dollar for shareholders. This value is typically used by investors to show the market's perception of a particular stock's value. Market to book value ratio is calculated as the market value of capital (market capitalization) divided by total book value.

$$M/B = \frac{Market\ capitalization}{Total\ book\ value}$$

The value of the ratio greater than 1 indicates that stock is undervalued, if it is less than 1, then the stock is overvalued.

Market to book value ratio is the most widely used performance measure in the work of [Black, Jang, Kim, 2006].

Price-to-Earnings Ratio

Price to earnings ratio measures current share price of the firm relative to its per-share earnings [Nicholson, 1960]. This ratio evaluates market confidence in the shares of a firm and is calculated as the market price per share divided by earnings per share.

$$P/E = \frac{Share\ price}{Earnings\ per\ share}$$

A high P/E ratio implies that investors are anticipating higher earnings growth within the next years while firms with a lower P/E are expected lower growth [Goodman & Peavy III, 1986].

Cash Flow per Share

Cash flow per share is preferred by some experts and considered to be an accurate estimate of the strength and sustainability of a firm. This ratio examines the cash that is generated for each share in the firm to cover capital expenditure and cash dividends [Bernstein, 1993]. If the company

does not have sufficient operating cash flow then it would not be able to pay its dividend to shareholders [Mirza and Afza, 2014].

$$CFPS = \frac{Operating\ cash\ flow}{Total\ number\ of\ share\ outstanding}$$

Dividend yield

Dividend yield measures the amount of cash dividends distributed to common shareholders relative to the market value per share. It indicates the percentage of return on capital invested in shares of the company.

$$DY = \frac{Dividend\ per\ share}{Share\ price}$$

However, some experts criticize market-based financial performance measures due to lack of universality: these measures cannot be applied for valuation of private companies information about which is closed to the market. Moreover, these measures rely on investors' expectations about future performance of the company and could be influenced by unpredictable market changes.

1.4 CEO characteristics and financial performance: hypotheses statement

Company's reputation is critical corporate asset that is crucial for achieving competitive success [Gray & Balmer, 1998]. CEO of the company directly influences firm's reputation by setting and fulfilling its strategic goals and together with top management undertaking steps for development. However, decisions of CEO can both improve reputation or ruin it.

Shareholders perception of the company is strongly affected by CEOs actions, reputation and decisions. During the process of hiring and firing shares of the company could be quite volatile depending on the current shareholders attitude to CEO. Changing of CEO is a sensitive period for the company which is usually widely covered in specific news and discussed by interested parties.

Personal characteristics and the experiences of CEO affect company's vision and the development of corporate reputation [Balmer, 2001]. Hence, new CEO is able to affect greatly the future prospects of the company and outcomes of its performance.

An important question arose among researchers: which CEO characteristics matter most for company performance? In previous academic researches among the following traits were analyzed most often: gender, age, tenure, experience, education. However, the results of the studies were mixed. In this paper the relationship between different CEO characteristics and company financial performance will be analyzed and in this particular part of the paper hypothesis necessary for the analysis will be formulated.

Gender

Gender is one of the most examined executive feature. Academic literature suggests that peculiarities of different genders bring their representatives certain strengths and weaknesses at the workplace at the same time.

Diversification of boards of directors has become a major global trend in corporate governance recently. A balanced board of directors is one of the key tools to reduce risks, minimize "group thinking", increase efficiency and attractiveness for investors. Hence many governments set the task of achieving gender parity in the boards of directors of public companies. However, in Russian companies policy of gender diversification is not widely accepted. According to research of Hays, even despite of this policy, on average the number of women in managerial positions is less than men, and the higher the position is the less women occupy it [Vedomosti, 2016]. Researches of [Carter, et.al, 2003; Campbell & Minguez-Vera, 2008; Francoeur, et al., 2008] proved that presence of women in boards enhances board effectiveness and company performance.

Psychological differences between genders such as confidence in their abilities, leadership style, willingness to take risks can be reflected in the way the executives operate and lead to differences in the performance of female- and male-controlled firms [Peni, 2012].

Position of CEO is not diversifiable and companies should decide between male and female candidates based on the current requirements of the company. Nevertheless, female CEO brings diversity to the gender structure of top management. Many researchers devoted their studies to the analysis of relationship between CEO gender and performance of the company. [Brennan and McCafferty, 1997] came to a conclusion that female CEOs better understand consumer behavior and customers' needs that create a competitive advantage for their firms. In turn [Flabbi et.al, 2012; Rhode and Packel, 2014] found that CEO gender has a strong impact on firm performance while not raising the level of risk for the corporation. [Dezso and Ross, 2008] concluded that presence of women in top management improves Tobin's Q of the company, but relationship between female CEOs and firm performance was not identified. In this paper will be identified whether performance of the companies differs depending if it is managed by male CEO or female one. Based on the literature review the first hypothesis was formulated:

H1: In companies where female occupies CEO position, financial performance is higher.

Age

For a long time researchers discuss influence of CEO age on company performance. Initially it can be assumed that the older CEO is, the more experience he has that creates competitive advantage in comparison with younger colleagues. However, at the same time older leaders are risk averse and prone to defending status quo.

Several studies suggested that older CEOs are more conservative and tend to follow cautious strategies [Child, 1974; Hambrick and Mason, 1984]. [Barker and Mueller, 2002] revealed that R&D spending is lower in firms with older CEOs. Furthermore, [Serfling, 2014] found that older CEOs are associated both with lower firm equity risk and with lower R&D expenditures. Researchers associate young CEOs with higher growth and better performance due to higher probability of strategic change [Finkelstein & Hambrick, 1990] and higher aspirations with preferences for growth [Ebner, Freund, & Baltes, 2006].

According to recent research of Spencer Stuart the average age of Russian CEO equaled to 51,2 years in 2018 and the average age of the newly appointed CEOs was 48 years old. The youngest CEOs work in consumer sector while the oldest ones in pharmaceuticals. Russian CEOs are younger than foreign colleagues, as the average age of CEOs of S&P companies equaled to 54 years. Moreover, in such countries as Switzerland, Netherlands, Spain the average age of CEO is greater than 60 years [SpencerStuart, 2019].

Based on the information provided above it becomes interesting to analyze relationship between CEO age and financial performance of Russian companies. Author of this paper takes into account conclusions of previous researches about the positive impact of young CEOs on company performance. Hence the next hypothesis was formulated:

H2: CEO age is negatively related to financial performance of the company.

Education

Employers are constantly raising the educational requirements for potential employees. Almost a third of the jobs that could previously be obtained with only a high school diploma now require a bachelor's diploma. At the same time every fourth vacancy that a bachelor could previously apply for, now requires a master's degree [Vedomosti, 2018].

However, that is not always the same for CEO position. Two points of view exists and both could be justified by various examples. The first one is based on the assumption that a person could build a successful company and occupy the highest position without proper education. Another one is related to the opinion that only good from top world universities could lead to the CEO position.

CEO educational background is one of the few characteristics available for shareholder and investors that could help them to form their forecasts about CEO future performance. Obtained education could be viewed as a proxy for the CEO abilities to take risks, make correct decisions, create good relationships with stakeholders and build future strategy for company development.

Different papers attempted to examine the relationship between CEO educational background and financial performance of the firm. The most commonly raised question in these academic studies is "do better educated CEO produce better financial performance of the firm?"

Results of study of [Jalbert et.al, 2002] showed that CEOs who graduated from more prestigious universities make their firms achieve higher return on assets (ROA). However, from the other side, these companies demonstrated poor Tobin's Q.

[Gottesman and Morey, 2006] came to a conclusion that companies with CEOs with reputable diploma do not outperform other CEOs. Similarly, according to their findings firms managed by CEOs with MBA or law degrees do not outperform firms with CEOs without those.

Special attention was paid by authors to the investigation of the relationship of CEO education field and expenses on research and development. [Tyler and Steensma, 1998], [Finkelstein and Hambrick, 1996], and [Barker and Mueller, 2002] find that the type of degree that the CEO obtained influences firm's research and development funding. For instance, CEOs with technical education tends to spend more on research and development comparing to their colleagues with education in law.

It could be observed, that results of academic studies are quite mixed. In Russia both situations are quite common: there is number of companies with CEOs with reputable diploma and at the same time some CEOs got education at small universities in their native towns. It seems to be interesting to investigate whether the difference between performance of companies having CEOs with different education differs. Moreover, some CEOs obtained education in the sphere in which their companies specialize, while others received degrees of completely different fields. In this paper the relationship between CEO's sphere of education and firm performance will be investigated. Further, influence of Master's Degree and MBA Degree is another point worth to be considered.

For this purpose, the next hypothesis was formulated:

H3: In companies where CEO's educational background is from the industry of company's operations, financial performance is higher.

Experience

Another important characteristic of CEO is related to the previous experience. At present time CEOs with different experience background are valuable to different companies, however, job experience gained in the same industry of company current operations could become a competitive advantage. Sometimes a dilemma could arise: is it better to hire a CEO from the industry but a little experience in a managing position or give preference to the one who know how to rule the corporation but possess little knowledge about the industry.

[Zhang, 2008] identified a negative correlation between CEO's prior experience and post-succession company performance. However, [Schnatterly et.al., 2008] came to a conclusion that CEO's from the same industry possess industry-specific skills and know the market environment better, including the peculiarities of relationships with suppliers and other stakeholders. Thus, such CEO's do not need to spend additional time on learning in the new position.

H4: Industry experience of CEO is positively related to financial performance of the company.

Tenure

Some CEOs spend many years in a position while others quit after several months. In recent years CEO tenure has become longer. World top leaders of 2019 have held their positions for 15 years on average, twice more than the average tenure of an S&P 500 CEO. [HBR, 2019]

Normally CEO tenure may be short when the new business cycle comes. Companies at different stages of lifecycle require CEOs with different qualities. Another case can happen when CEO comes with a purpose to perform a certain transformation and when it is over CEO can leave and another leader will come to fulfill new tasks.

Different theories exist about role of CEO tenure in company performance. One of the important topics in numerous academic researches is CEO entrenchment. CEO entrenchment exists when managers gain much power and become able to use firm resources to satisfy their own interests rather than the interests of shareholders. Managers often seek to get revenues in the detriment of the firm's goals and objectives [Morck, et.al., 1988]. [Hermalin and Weisbach, 1998] suggested that CEOs with a good performance send signals that they are good matches for their firms and at the same time acquire bargaining power to entrench themselves.

Different scientists identified that longer CEO tenure affect such factors as innovations [Wu et al., 2005], net investments [Pan et al., 2016], and profitability [Henderson et al., 2006]. In the research of [Wang, et.al, 2009] author stated that longer CEO tenure results in corporate governance gains only if positive employees relations are attained.

Usually Russian CEOs have long tenure in their companies. According to SpencerStuart, the average time spent in the role of CEO in Russia is more than 7 years. Most often CEOs from telecom sector change each other, while least often in the consumer sector where the average tenure CEO exceeds 11 years.

According to the analysis provided the following hypothesis about CEO tenure was formulated:

H5: CEO tenure is positively related to financial performance of the company.

Ownership

Many authors in their papers investigated how the percentage of shares owned by CEO influences overall performance of the company. Agency theory proposes that CEO ownership serves as incentive for CEO to improve firm performance and hence maximize value of his own shares.

Generally, shareholders do not have complete access to the information, however, CEO is the one that represents the company and possesses power of decision-marking. Therefore, it is crucial to align interests of CEO with those of shareholders. Different tools of CEO motivation to increase company performance exist, such as compensation package, bonuses and other incentives. However, if CEO owns shares of the company it could motivate him to be more concerned about long-term prospects of the company since he will receive dividends even after his resignation.

In their work [Lilienfeld-Toal and Ruenzi, 2014] discovered that the stock returns of firms with high CEO ownership and find that they strongly outperform firms with low managerial ownership. [Kim and Lu, 2011] identified the positive relationship between CEO ownership and firm performance. In the research of [Sani, 2019] the author identified negative correlation between CEO ownership and firm profitability measured by the stock return but positive with ROA. However, for instance, [Coles, McWiliams and Sen, 2001] did not find any significant relationship between factors mentioned above.

In Russian companies the extent of ownership concentration is relatively high and control usually is fulfilled by one or several owners. However, due to market development and increase of business complexity in recent time owners realize benefits of delegating management of the companies to professionals. In Russian market it is interesting to investigate which portion of shares on average belongs to top managers nowadays and whether the relationship between discussed factors exist. For this purpose, the sixth hypothesis was formulated:

H6: The percentage of shares owned by CEO is positively related to financial performance of the company.

Busyness

Sometimes CEOs can hold outside directorships in board of directors of other companies. In this situation CEO is characterized as busy one. CEOs that occupy positions outside can bring new expertise to their companies and create value by using benefits of extended networks of partnerships. However, busy CEOs can lack their focus due to too many commitments that will negatively affect company performance.

Several studies confirmed positive relationship between number of outside boards of directors where CEO holds position and company financial performance. For instance, [Fama and

Jensen, 1983] stated that if CEO takes position in several board of directors simultaneously it serves as a positive signal for investors and signifies positive reputation and high expertise of CEO.

However, other studies negative relationship between CEO and firm performance due to busy CEOs inability to perform effective decision making in their companies [Fich and Shivdasani, 2006], [Harymawan et.al, 2019].

In this paper author sticks to the opinion that CEO busyness could be harmful for the effectiveness of the company. Many Russian CEOs occupy positions in several outside boards of directors and sometimes in firms competitive to their own ones. The next hypothesis was formulated:

H7: CEO busyness is negatively related to financial performance of the company.

Political connections

In this paper special attention will be given to the analysis of another important characteristic of CEO – political connectedness.

In various academic researches a company is identified as politically connected if at least one of its top officers (CEO, chairman, members of the board) belongs to a political party, has a key government position, is known by his political past or is closely connected to a top politician or party through family ties [Faccio, 2006; Chaney et.al, 2011; Boubakri et.al., 2012].

According to recent KPMG research, at present time the global economy is more exposed to political instability than ever before. Many corporations have become larger than national economies and some of them have more global power than the countries where they operate. According to the estimates of Global Justice, 69 of the top 100 wealthiest economic entities in 2017 were corporations, not countries. Hence, companies have become important actors on political arena as well. [KPMG, 2019]

Government has a crucial and expanding effect on companies' industries and economic value and it is likelier to affect companies' economic value than any other group of stakeholders except customer. [McKinsey, 2010]

CEOs are facing new, unfamiliar and complex situations often resulting from geopolitical issues, which they may have had limited exposure to in their previous markets. Companies can follow different approaches to adapt and perform successfully in these changing conditions. For example, companies could appoint Chief Geopolitical Officer (CGO) who will be accountable for managing the impact of politics on the company's business interests, conduct geopolitical stress test to identify how company is affected by geopolitical risk and implement system of geopolitical forecasting and monitoring. [KPMG, 2019]

Numerous researches have been conducted in order to analyze whether political connections of the firm influence its performance in different areas. Some researchers devoted their studies to the analysis of the impact of political connections on the quality of financial statements [Chaney et al., 2011], other chosen the cost of equity as dependent variable [Boubakri et.al., 2012], the financial analysts' forecasts [Chen et al., 2010], the characteristics of corporate governance [You and Du, 2011], the social responsibility strategies [Lin et al., 2014], and financing decisions [Boubakri, et.al., 2012].

[Faccio, 2006] found evidence from firms in 47 countries showing that companies with political connections have higher leverage and higher market shares, but they underperform compared to nonconnected companies on an accounting basis.

Other researchers examined whether political connections influence company's performance and value [Li et al., 2008]. However, the results of the previous studies are quite controversial that could be related to the differences in political systems and economic development of the studied countries [Maaloul et.al, 2018].

In total, results of the studies could be divided into two groups – those that identified positive influence of political connectedness on firm performance, while the second group associates this feature with negative consequences for companies. Hereafter both views will be discussed based on the conclusions of academic researches.

Most common research questions underlying in numerous academic studies are the following: Is ROA goes up in politically connected firms? Do firms with politically connected CEOs outperform firms with non-connected CEOs?

Several reasons were identified to justify positive influence of political connectedness on firm performance. Research of [Bertrand et al., 2018] proved that politicians grant favors to firms connected to them. These favors include access to economic resources and subsides, inside information that can help firms effectively anticipate changes, lower taxes and favorable government contracts [Faccio, 2010; Maaloul et.al, 2018]. Investors tend to invest more in politically connected firms as those seems to be more stable and resistant to crises and economic changes. Other benefits include preferential access to credit with more relaxed terms and preferential treatment from government-controlled banks [Li et al., 2008; Chow et al., 2012; Boubakri, et.al, 2012] Politicians in turn receive financial support from companies before elections in terms of political party funding.

At the same time, it is worth to mention negative effects of political connectedness. Sometimes CEOs could use resources to help politicians even if it is not beneficial for their companies. For example, firms may use employment as a lever to help politicians: fulfill corporate hiring and firing decisions required by politicians, maintain employment levels above

economically efficient level. In election years employment growth and rates of plants creations are higher, while rates of plant deconstruction are lower if a politically connected CEO aims to help politicians [Bertrand et.al., 2007]. Another drawback is related to the fact that politically connected CEOs may have a sense of impunity and assume that they will stay unpunished for any infringements that leads to fraudulent behavior [Bourveau et al., 2014] and are less likely to be fired [You and Du, 2012]. [Su et.al, 2014] concluded that directors of politically connected firms use their power via their entrenchment and the expropriation of minority shareholders to achieve goals that are not aimed at maximization of the company's value.

However, few studies have been devoted to the analysis of political connectedness of Russian companies. Most of the past researches focused on developed countries, which are known for reliable legal systems and low corruption levels while developing countries were not deeply analyzed. Developing countries are characterized by weak institutional infrastructure, ineffective companies' government structure, high level of corruption and regular interventions of government into companies' operations. All these issues create a business-friendly environment for building political relationships with the government and ensure political favors in terms of resources controlled by the government [Faccio, 2006; Attia et al., 2016; Maaloul et.al, 2018].

As Russia is considered to be developing country, it is especially interesting to study political connectedness of companies here. According to the definition of OECD, state owned enterprises are those where the state has significant control, through full, majority, or significant minority ownership [OECD, 2018]. In 2014 54 Russian state-owned companies generated more than 2/3 of the total revenues from the sale of goods and services generated by approximately 30,000 public-sector organizations [Abramov et.al, 2017]. According to Vedomosti, Russian government and state-owned enterprises control 70% of Russian economy [Vedomosti, 2016].

On Moscow Stock Exchange (MOEX) are traded public state-owned companies, the total number of which equals to 37. Moscow Stock Exchange created a special index for companies with state participation - MOEX SCI. According to BSC Express, the index for 2018 is based on 16 companies' stock: ALROSA, Rostelecom, Gazprom, Rosseti, VTB, RusHydro, Rosneft, FGC UES, Tatneft, Transneft, Inter RAO, Bashneft, Aeroflot, Sberbank and NCSP.

However, not only state-owned companies could be considered politically connected. It is common for Russian companies when CEO or other top managers are related to political parties at present time or had previously worked in government structures. As Russian business environment could be considered as quite friendly for building political relationships with the government, in this paper it would be investigated how political connections of CEOs affect performance of the companies.

In this paper the author decided to take into account the method applied by [Faccio, 2006] to measure political connections. Scientist suggested that a company could be considered politically connected if its CEO belongs to a political party, has a key government position, is known by his political past or is closely connected to a top politician or party through family ties.

However, Russian political environment implies multi-party system but the leading role in a political system belongs to the United Russia party and this party is classified by politicians as "party-of-power". Thus, it is rather complicated to estimate political capital of a particular CEO based on his belonging to a political party in Russia. There is no clear understanding of how relations to parties other than United Russia affect power of CEOs in getting political favors from the government. Therefore, this aspect will not be considered as a determinant for measurement of political connections.

Hence, in order to measure political connections author will estimate two aspects – how many years CEO has spent occupying key governmental position and whether CEO is connected through family or friendship relations to a top politician.

Board members and other top managers will not be considered in this research, as the main aim of the paper is to identify relationship between CEO characteristics and company financial performance.

Therefore, based on the literature review and analysis the following hypothesis is formulated:

H8: Political connections of CEO are positively related to financial performance of the company.

CHAPTER 2. EMPIRICAL STUDY

The aim of the paper is to analyze the relationship between CEO characteristics and company financial performance. In order to fulfil the aim of the paper eight hypothesis were formulated.

Methodology of the research is chosen based on the analysis of previous academics' empirical studies. In many papers quantitative methods were applied to identify the relationship between personal characteristics of a CEO and measures of a company financial performance. For instance, econometric regression models were built in studies of [Tyler, et.al, 1998], [Faccio, 2001; 2006], [Bertrand, et.al, 2007], [Boubakri, et.al, 2012]. In particular, linear regression model was built in order to perform the research. This choice is fairly justified by the fact that linear regression models are applied to explain the dependent variable based on independent and control ones, identify relationships between factors and conduct predictive analysis. Hence, measures of financial performance are chosen as dependent ones and managerial characteristics as independent.

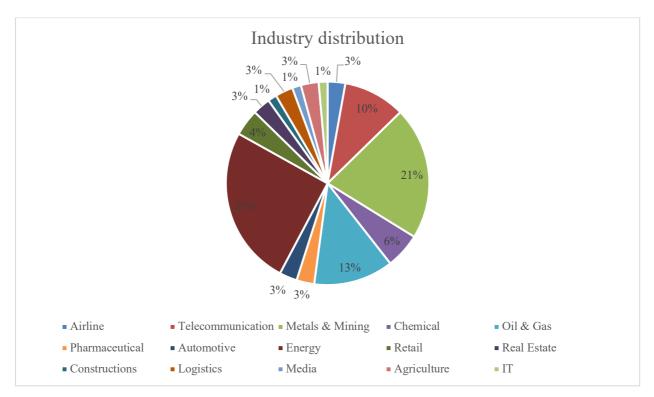
Therefore, in this paper the main instrument of the research will be the linear regression analysis. Such financial measures as ROA, ROE, EPS and DPS will be included as dependent variables and CEO characteristics (gender, age, education, industry experience, tenure, shares ownership, busyness, experience during crisis in CEO position and political connections) as independent ones.

2.1. Data

The empirical study will be built on the dataset for the three years starting from 2015 till 2017 year. This period does not include peak of 2014 financial crisis, because the results of the financial measures could be greatly affected by economic conditions. However, the period after the crisis is very indicative as it illustrates the ability of CEO to manage the company during difficult time. Also, it is important to consider the lag effect meaning that CEO's decisions taken in the current year to a greater extent affect financial performance of the next year.

Companies for the dataset are taken from the Broad Market Index of Moscow Stock Exchange excluding financial companies. Broad Market Index of Moscow Stock Exchange was chosen because it includes the top 100 shares selected by the criteria of liquidity, capitalization and shares that are in free-float. List of securities included in this index is used as the basis for the constituent list of other indices of the Moscow Exchange.

The initial dataset includes 71 companies from different industries. From the analysis were excluded financial institutions and those companies that lack available data about CEOs. In the diagram below the distribution of companies between industries is provided. It could be observed, that a large part of companies belongs to the metals & mining sector and oil & gas sector.



Pic. 1 Distribution of companies according industries

The data about company financial performance, including accounting-based measures and financial characteristics of the companies, such as financial leverage, net assets, size is retrieved from data bases such as Thomson Reuters Eikon and Bloomberg. Financial measures are expressed in Russian Rubles.

Other part of the variables that include qualitative characteristics of CEO is collected with hand from companies' websites, SPARK and SCRIN databases, annual reports and news agencies.

2.2. Econometric analysis

For the analysis of the relationship between CEO characteristics and company financial performance first of all the basic ordinary least square (OLS) regression model was built:

$$Y_i = \beta_0 + \beta_1 CEO_characteristics_i + \beta_2 CONTROL_variables_i + \varepsilon_i$$

Vector of dependent variables Y_i represents measures of financial performance (ROA, ROE, EPS, DPS) for every i company in the sample. Vector of independent variables $CEO_characteristics_i$ represents characteristics of a CEO of each company. Vector of control variables $CONTROL_variables_i$ represents additional characteristics of a company. β_0 is an unknown scalar quantity, β_1 and β_2 are vectors of coefficients in a modeled linear regression. ε_i is a random error term that appears when the model does not fully represent the actual relationship between the independent variables and the dependent variables.

As the model is applied to the panel data, it is possible to choose from three types of regression models:

- 1. Pooled Regression Model. The main assumption of this model relates to the idea that intercept and slope are constant during time and across observations.
- 2. Fixed Effects Model. The model assumes that differences across cross-sectional units can be captured in differences in the constant term and the intercept term of the regression model varies across the cross-sectional units.
- 3. Random Effects Model. The model assumes that the individual effects are randomly distributed across the cross-sectional units and the regression model is specified with an intercept term representing an overall constant term in order to capture the individual effects.

The regression models with Fixed Effects as well as with Random Effects take the following form:

$$Y_i = \beta_0 + \beta_1 CEO_characteristics_i + \beta_2 CONTROL_variables_i + \varepsilon_i + u_i$$

The difference between OLS model and model with Fixed or Random effects consists in the presence of individual effect u_i in the latter which not equals to zero.

The choice between these models is made based on the results of the Breusch-Pagan Lagrange multiplier Test, F-test and Hausman Specification Test. Results of the F-test allowed to reject the null hypothesis meaning that the fixed effects are non-zero. It signifies that Fixed Effects Model is better than OLS model for current dataset. Based on the Breusch-Pagan Lagrange Multiplier Test, the null hypothesis that the variance of the random effect is zero was rejected. It signifies that OLS model is not the best option between OLS and Random Effects Model and further choice between Fixed Effects Model and Random Effects Model should be made. This choice was made with the help of Hausman Specification Test. The null hypothesis stated that Random Effects Model is preferable, however, the null hypothesis was rejected meaning that Fixed Effects Model is the best choice.

The choice is rational since Fixed Effects model is considered to be suitable for the analysis of the relationship between dependent variables and independent characteristics within the entities that have their own characteristics that may influence the predictor variables. While using Fixed Effects Model it is possible to assume that something within the entity may impact or bias outcome and there is a need to control it. Further, the time-invariant characteristics of the companies are unique within each of them and are not correlated with the characteristics of other companies. Each entity under assumptions of the model is unique and therefore its error term and the constant are not correlated with the others.

Since individual effects are presented in the model, there is a probability that the problem of heteroskedasticity could appear. One of the assumptions related to the correct regression model is the homoskedasticity meaning that the variance around the regression line is the same for all

values of the predictor variable. Robust command was included in the model in order to control heteroskedasticity.

2.3. Variables description

In the table below variables used in regression model are described. They are divided into three categories: dependent variables, independent variables, control variables. Apart from general description the calculation method is provided.

Table 2. Description of variables

Variable		Description		
Dependent	ROA	A continuous variable that indicates the return on assets of a company <i>i</i>		
variables		at a time period $t+1$. An accounting based measure of financial		
		performance characterizing the operational efficiency of the company		
		assets.		
		$ROA = rac{After\ tax\ interest + Net\ income}{Total\ Assets}$		
		Total Assets		
	ROE	A continuous variable that indicates the return on equity of company <i>i</i>		
	KOL	at a time period $t+1$. An accounting-based measure of financial		
		performance characterizing the efficiency of use of capital provided by		
		the owners.		
		$ROE = \frac{Net\ income}{Equity}$		
	EPS	A continuous variable that indicates portion of profit allocated to every		
		outstanding share of common stock of company i at a time period $t+1$.		
		$EPS = \ln \left(\frac{Net \ income - Preferred \ Dividends}{Weighted \ average \ shares \ outstanding} \right)$		
		`Weighted average shares outstanding'		
	DPS	A continuous variable that indicates the sum of declared dividends		
		issued by a company i for every ordinary share outstanding at a time		
		period $t+1$.		
		$DPS = \ln \left(\frac{Total \ dividend \ paid \ out \ over \ a \ period}{Weighted \ average \ shares \ outstanding} \right)$		
Control	Age	A discrete variable that indicates the age of company i at the end of the		
variables		time period $t+1$. Calculated as the number of years from the year of the		
		company establishment.		
	Size	A continuous variable that indicates size of company <i>i</i> at a time period		
		t+1 based on the total assets of the company. Calculated as the natural		
		logarithm of total assets.		
	Leverage	A continuous variable characterizing the capital structure of company <i>i</i>		
		at a time period $t+1$.		

		$Leverage = \frac{Total\ debt}{Total\ assets}$		
		$Leverage = {Total \ assets}$		
	Current_ratio	A continuous variable that measures liquidity of company <i>i</i> at a time		
		period $t+1$.		
		$Current\ ratio = \frac{Current\ assets}{Current\ liabilities}$		
Independent	CEO Age	A discrete variable that indicates the age of CEO of company <i>i</i> at the		
variables	CLO_rige	end of the time period t . Calculated as the number of years from the		
variables		year of CEO birth.		
	CEO Gender	A dummy variable that indicates the gender of CEO of company <i>i</i> at a		
	CEO_Gender			
	CEO T	time period t . 1 – female, 0 – male.		
	CEO_Tenure	A discrete variable that indicates the number of years that CEO takes in		
		a position of a company <i>i</i> at the end of the time period <i>t</i> rounded.		
		Calculated as the number of years in the position of CEO rounded.		
	CEO_Ed_Industry	A dummy variable that indicates whether the field of CEO education is		
		related to the industry of company i where CEO takes position. $1 - \text{field}$		
		of education is related to the industry, 0 – field of education is not		
		related to the industry.		
	CEO_Master	A dummy variable that indicates whether CEO of company <i>i</i> obtained		
		Master diploma or not. $1 - \text{CEO}$ of company i has Master diploma, 0 -		
		CEO of company <i>i</i> does not have Master diploma.		
	CEO_MBA	A dummy variable that indicates whether CEO of company <i>i</i> obtained		
		MBA degree or not. $1 - \text{CEO}$ of company i has MBA degree, $0 - \text{CEO}$		
		of company <i>i</i> does not have MBA degree.		
	CEO_Insider	A dummy variable that indicates whether top-manager was promoted to		
		the CEO position of company i or was employed from the outside. 1 –		
		CEO is insider, 0 – CEO is outsider.		
	CEO_Experience	A discrete variable that indicates the number of years that CEO has		
		already spent working in the industry of company i. Calculated as the		
		number of years starting from the first year CEO start working in the		
		industry.		
	CEO_Ownership	A discrete variable that indicates the percentage of shares of company <i>i</i>		
		equity that belongs to CEO at the end of time period t.		
	CEO_Busyness	A discrete variable that indicates the number of external boards of		
		directors where CEO of the company <i>i</i> takes the position of a member		
		at the end if time period t .		
	CEO_Crisis A dummy variable that indicates whether top-manager			
		occupied position of CEO during financial crisis of 2007-2008. 1 – top		
		manager of company i took CEO position during crisis, 0 – does not.		
<u> </u>	1			

CEO_PC	A discrete variable that indicates the number of years that CEO of the
	company i occupied a key governmental position. Calculated as the
	number of years in the position rounded.
CEO_PC_relations	A dummy variable that indicates whether CEO of the company <i>i</i> is
	related to a top politician through family, friendship or business
	relations. 1 – CEO has close relations with top politician, 0 – CEO does
	not.

2.4. Sample Analysis and Descriptive Statistics

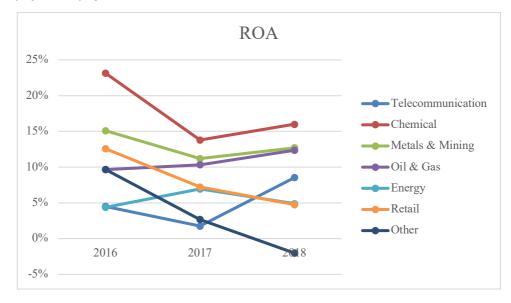
Before the regression analysis, descriptive analysis of the sample was performed. For each variable the following characteristics were obtained: minimum and maximum values, mean and standard deviation.

First of all, dependent variables were analyzed, results could be seen in the table below.

Mean Std. Dev. Min Max -1.23 0.55 0.0610937 0.1453732 **ROA** 0.1773437 0.3463085 1.91 ROE -0.87-290.68 1068.68 **EPS** 80.05566 207.6836 65.63319 201.7452 0 1300 **DPS**

Table 3. Descriptive statistics of dependent variables

Since coefficients vary significantly, a comprehensive analysis of the indicators should be performed for different industries separately. The graphs below demonstrate how the average ROA, ROE, EPS and DPS coefficients of companies from different industries were changing between 2016 and 2018.

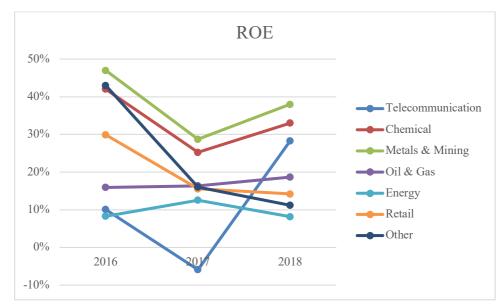


Pic. 2 Average ROA by industry

Analysis of the average ROA coefficient shows that in 2016 values were able to improve after the financial crisis of 2014-15. However, in 2017 almost all industries experienced decline of coefficient with the exception of Energy and Oil & Gas industries which still demonstrated growth. This could be related to the fact that in oil prices in 2016 fell down significantly, however in 2017 and 2018 prices start grow again.

Regarding retail industry, it could be observed that ROA coefficient was declining from 2016 to 2018. This could be related to the fact that in the sample retail industry is represented by such companies as Dixy, Magnit and Lenta, which are considered to be popular with low- and middle-income customers. During the crisis these companies could have higher demand from customers of different segments while after economic recession people could switch to more expensive retailers.

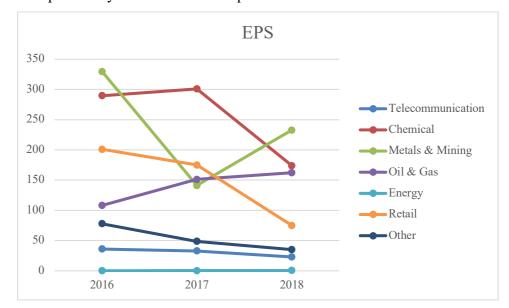
In general, in 2018 almost all industries experienced increase in ROA that in 2018 Russian economy was able to recovery from financial crisis, average income of population also was growing and oil prices remained high. Hence, companies were able to improve their financial results.



Pic. 3 Average ROE by industry

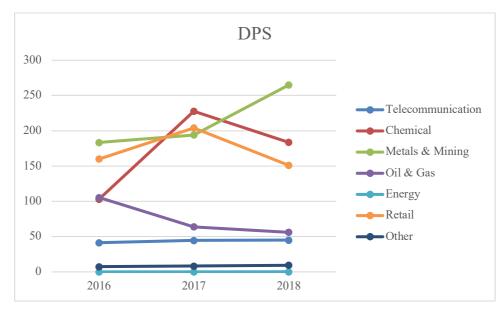
According to the graph above, ROE coefficient followed pretty similar trend as ROA did. Year 2017 is characterized by decrease of ROE in such industries as Telecommunication, Chemical and Metals & Mining. Sharp decrease of the average ROE coefficient in Telecommunication industry could partially be explained by the financial performance of AFK Sistema during this year. In 2017 net profit of the company decreased by 5.2% and share price also fell down to the minimum amount from 2014. The reason for that is considered to be law suits against the company from Rosneft.

Oil & Gas industry again demonstrated steady growth of the average ROE during the period that could be explained by fluctuations of oil prices.



Pic. 4 Average EPS by industry

Regarding EPS, it could be noticed that trends within industries are quite different. Oil & Gas industry again demonstrated growth over the period, while Retail and Chemical industry experienced decline of the ratio. The average EPS in energy industry is very low due to the fact that companies of this segments are mainly owned by the government.



Pic. 5 Average DPS by industry

According to the graph above, it could be noticed that in 2018 companies of Metals & Mining industry paid comparatively high dividends to their shareholders. According to experts'

opinion, dividends growth in this industry is related to the decrease of debt burden and capital expenditures since main part of those has been spent during previous years.

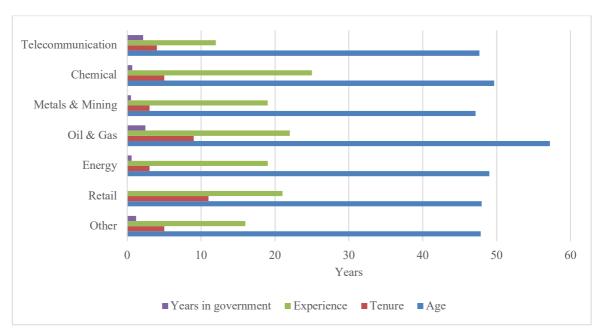
In total, it could be noticed that trends of variables across industries are quite different. Moreover, the spread of EPS and DPS values is also significant, hence in order to make data comparable in regression analysis, the logarithmic values will be used.

Next, the analysis of CEO characteristics was performed, results are presented in the table.

Table 4. Descriptive statistics of CEO characteristics

	Mean	Std. Dev.	Min	Max
CEO_Gender	0	0	0	0
CEO_Age	50.25521	8.228572	33	69
CEO_Tenure	5.760417	5.459503	1	24
CEO_Experience	18.84896	12.10266	1	49
CEO_Ed_Industry	0.328125	0.4707581	0	1
CEO_Master	0.4583333	0.4995635	0	1
CEO_MBA	0.1614583	0.3689151	0	1
CEO_Insider	0.515625	0.5010624	0	1
CEO_Ownership	1.813245	8.801316	0	60.23
CEO_Busyness	0.5052083	0.8121937	0	4
CEO_Crisis	0.84375	0.3640415	0	1
CEO_PC	1.052083	2.590235	0	16
CEO_PC_relations	0.1451613	0.3532142	0	1

In order to evaluate data in a visual form, the following graph demonstrating average characteristics of CEOs across industries was built.



Pic. 6 Average CEO characteristics by industry

According to the graph above, average ages in different industries are quite similar and are ranging between 47 and 50 years with the exception of Oil & Gas industry where average age of CEO equals to 57 years. At the same time, the average tenure of CEO in Oil & Gas industry is also one of the highest, hence it could be concluded that CEOs of Oil & Gas companies tend to enter companies in the middle age and take their position for a long time. Moreover, Oil & Gas industry demonstrates the highest average number of years CEO took position in government.

In turn, the average tenure in such industries as Telecommunication, Metals & Mining and Energy is comparatively low, as well as the number of years CEOs spent occupying position in government with the exception for Telecommunication.

The average tenure in Retail industry is the highest in the sample. It could be explained by the fact that Retail industry is represented only by three companies whose CEOs occupied their position for a significant time period.

Regarding CEO experience, it appeared that on average the most experienced CEOs rule the companies in Chemical, Oil & Gas and Retail industries. It means that CEOs in those industries have already spent significant amount of time working in the same industry and obtaining experience of ruling or working in similar companies.

Speaking about CEO gender, it could be noticed that all CEOs in the sample are male. Therefore, hypothesis about relationship between gender of CEO and firm performance could not be tested. Therefore, variable was omitted from the models.

Regarding CEO ownership, it could be noticed that the range of values is rather high starting from 0% to 60.23%. However, the average percentage of owned shares equals to 1.8% meaning that in the larger part of the sample CEOs do not have in ownership significant portion

of shares. At the same time, in such companies as Gruppa LSR PAO (Andrey Molchanov – 60.04% in 2017) and Magnit PAO (Sergey Galitskiy – 34% in 2017) CEOs own significant percentage of shares.

Variable CEO_Crisis is introduced in order to establish whether CEO occupied CEO position during global financial crisis of 2007-2008 or not. It could be seen that the average value equals to 0.84375 meaning that more than a half of CEOs ruled the companies during the crisis. Financial crisis of 2007-08 affected Russian economy and operations of many domestic companies. During recession CEOs have faced decreasing demand for goods and services, lack of financial resources and difficulties to obtain new credits, the need to cut jobs and subsequent revenue decrease. Managers who took CEO position during both financial crisis of 2007-08 and 2014-15 were able to develop skills to manage company during difficult time. They have already experienced and their vision could be beneficial for strategy and performance of the company. According to PWC report, 72% of CEOs consider global economic uncertainty the biggest threat they face. During the crisis, CEO's right vision and ability to take effective decisions become crucial for company's further success. [PWC, 2019]

Finally, control variables were analyzed, results could be seen in the table below.

Min Max Mean Std. Dev. 8 172 39.92188 38.49089 Age 947.7843 2616.891 2.649274 18238.77 **Size** 0.9735417 1.356193 0 9.52 Leverage 1.532031 1.192524 0.11 11.21 **Current ratio**

Table 5. Descriptive statistics of control variables

Variable Age shows that on average companies in the sample are conducting their activities already for 40 years. However, some companies in the sample are quite young and operate only for 8-20 years (e.g. Enel Rossiya PAO, Polyus PAO, Yunipro PAO). On the other hand, several companies in the sample exist more than 100 years and are represented by such companies as Novorossiyskiy Morskoy Torgovyi Port PAO, Moskovskaya Gorodskaya Telefonnaya Set' PAO, Tsentral'nyi Telegraf PAO.

Variable Size allows to identify that companies differs from each other in terms of assets size. Some industries are more capital intensive then others, for example Energy and Oil & Gas industries. Consequently, companies of those industries are bigger in size. Therefore, this variable should be included in a logarithmic form in a regression model in order to achieve normal distribution.

As for debt to assets share, this ratio as well varies across industries. Capital-intensive industries such as Telecommunication, Oil & Gas require significant financial resources to produce goods and services and often attract them from banks and investors in form of debt.

All in all, control variables differ for companies of different industries since history of their development in Russia is not similar. Some industries are younger than others, some are very monopolistic while other experience intense competition. However, in general similar trends could be observed for both dependent and independent variables across industries. Therefore, results of the econometric analysis could be applied for all industries.

2.5. Empirical results

In order to test hypotheses of the empirical study regression analysis was performed using Stata software package. First of all, Pearson correlation matrix was built in order to check for potential correlation between variables. According to the analysis, all correlation coefficients modulus are less than 0.7 meaning the absence of the strong correlation between factors and allows proceed with further analysis. Correlations matrix is presented in the Appendix 2.

The estimated coefficients of the regression models are presented in the table below.

Table 6. Results of the regression analysis

	ROA	ROE	logEPS	logDPS
CEO_Gender	-	-	-	-
CEO_Age	0.0018878**	0.0022514*	0.0526686***	0.0411022***
CEO_Tenure	0.0045901*	0.0143351	-0.0035424	-0.0113234*
CEO_Experience	0.0101501	-0.0136029	0.0234788***	0.0365972**
CEO_Ed_Industry	0.1519669**	0.1341671*	-0.0840923	0.1310051
CEO_Master	0.112109	-0.1956384	0.2706446**	0.2024368**
CEO_MBA	0.219616	0.2302091	0.4602991**	0.5405313***
CEO_Insider	0.0416297	-0.0167777	0.0462786	-0.0065626
CEO_Ownership	-0.0000461	0.0076751	0.003059	-0.0002967
CEO_Busyness	-0.0349245**	-0.0164442**	-0.2745266**	-0.295004***
CEO_Crisis	0.1092277*	0.4164757*	0.5053687	0.0980754
CEO_PC	0.0013411**	0.0079464**	0.1102052	-0.1053343**
CEO_PC_relations	0.301162*	0.3169312*	-0.4575427	-0.1758398
Age	0.0025758	0.0017828	0.0001208	0.0010002
Size	0.1108339*	0.1022712*	0.0844307**	0.1280621**
Leverage	-0.0469615	0.1300424**	-0.0091985**	0.0485581
Current ratio	0.2958678***	0.257078**	0.0047344	0.1848066
_cons	-3.226708**	-3.1334**	-4.515123***	-4.782749***
Prob>F	0.0023	0.0018	0.0000	0.0000

R-Squared	0.3206	0.2856	0.3925	0.3620
N	204	204	204	204

*, **, *** - significant at 10%, 5% and 1% respectively

From the table above it could be seen that all four models are significant. The highest coefficient of determination has the model with EPS as dependent variables. However, coefficients of other models and their significance allows interpret results and apply them for developing of managerial recommendations.

Since gender of all CEOs appeared to be male one, it was not possible to test the first hypothesis about relationships between CEO gender and firm performance and this variable was omitted from the models.

The coefficient of CEO_Age variable appeared to be significant in all four models. Hence, it is possible to determine that relationship between CEOs age and financial performance of the companies exist and this relationship is positive.

Speaking about CEO_Tenure, the coefficient of this variable is significant in models with ROA and DPA as dependent variables at 10% level of significance. The relationship between CEO tenure and ROA is positive, however, the direction of relationship between tenure and DPS is negative.

The coefficient of CEO_Experience variable appeared to be significant in EPS and DPS models and direction of the relationship is positive. In turn, the fact of obtaining education in the same industry of company operations is positively related to the ROA and ROE.

The coefficient of CEO_Master variable is significant in models with EPS and DPS. The direction of relationship is positive that allows to establish that CEOs with Master's degree are able to improve financial performance of companies. CEO_MBA variable as well appeared to be significant in the models with EPS and DPS.

The coefficient of CEO_Insider variable has not become significant in any model. It means that there is no significant difference in financial results of the companies where CEO was promoted from inside or where CEO was attracted from another company.

Similarly, the coefficient of the variable CEO_Ownership is not significant in any model. On the contrary, the coefficient of the variable CEO_Busyness is significant in all four models and in all cases the relationship is negative.

Speaking about CEO_Crisis variable, the coefficient is significant in models with ROA and ROE ratios. In models with EPS and DPS variables, the coefficient is not significant.

Finally, regarding political connections of CEO, it is possible to identify that coefficient of the variable CEO_PC is significant and positive in models with ROA and ROE measures, but negative in model with DPS ratio. The coefficient of the variable CEO_PC relations appeared to

be significant as well in models with ROA and ROE and the direction of the relationship is positive.

2.6. Findings and discussion

The goal of the study was to identify the relationship between CEO characteristics and financial performance of Russian companies measured by such accounting-based ratios as ROA, ROE, EPS and DPS. The relationship was tested by building linear regression model with the help of Stata software package. The sample included 71 Russian public companies. According to the results of the regression analysis, the following conclusion regarding hypotheses could be made.

Table 7. Hypotheses summary

Is hypothesis accepted or rejected?								
Hypothesis	ROA model	ROE model	EPS model	DPS model				
H1: In companies where female	Neither	Neither	Neither	Neither				
occupies CEO position, financial	supported, nor	supported, nor	supported, nor	supported, nor				
performance is higher.	rejected	rejected	rejected	rejected				
H2: CEO age is negatively related to	Rejected	Rejected	Rejected	Rejected				
financial performance of the company.								
H3: In companies where CEO's	Acepted	Acepted	Neither	Neither				
educational background is from the			supported, nor	supported, nor				
industry of company's operations,			rejected	rejected				
financial performance is higher.								
H4: Industry experience of CEO is	Neither	Neither	Accepted	Accepted				
positively related to financial	supported, nor	supported, nor						
performance of the company.	rejected	rejected						
H5: CEO tenure is positively related to	Accepted	Neither	Neither	Rejected				
financial performance of the company.		supported, nor	supported, nor					
		rejected	rejected					
H6: The percentage of shares owned by	Neither	Neither	Neither	Neither				
CEO is positively related to financial	supported, nor	supported, nor	supported, nor	supported, nor				
performance of the company.	rejected	rejected	rejected	rejected				
H7: CEO busyness is negatively related	Accepted	Accepted	Accepted	Accepted				
to financial performance of the								
company.								
H8: Political connections of CEO are	Accepted	Accepted	Neither	Rejected				
positively related to financial			supported, nor					
performance of the company.			rejected					

As it was stated before, the hypothesis about the relationship between CEO gender and financial performance could not be verified because there were no female CEOs in the sample. It

is not possible to state clearly whether those companies preferred male candidates based on their experience, skills and personal characteristics or Russian companies do not give equal opportunities to men and women to be chosen on the highest position in the company. Deeper analysis of gender opportunities in Russian companies could be conducted in future researches.

Next, the hypothesis about negative relationship between CEO age and financial performance was formulated meaning that older CEOs are more conservative and often miss opportunities to take more riskier but at the same time beneficial decisions. However, the results appeared to be the opposite. There is a significant positive relationship between CEO age and financial performance of Russian companies measured by ROA, ROE, EPS and DPS. Therefore, the second hypothesis was rejected. The result of the regression analysis shows that the strongest is relationship between CEO age and EPS. It means that older CEOs appear to be more experienced to manage Russian companies in quite unstable economy and this goes in line with the results obtained by [Kokeno and Muturi, 2016]. Authors came to a conclusion that younger CEOs lack experience and for that reason are not enough confident in themselves that prevents them from finding effective solutions to difficult problems. Similar results were obtained in the study of [Fujianti, 2018] where author identified that firms with older CEOs outperform firms with those executives who are younger.

The hypothesis about CEO education was aimed to identify whether financial performance is significantly improved if CEO obtained education in the same industry of company operations. The hypothesis was accepted for ROA and ROE models, however, for models with EPS and DPS as dependent variable the hypothesis cannot be neither supported, nor rejected due to the insignificance of relationship. Significant relationship with ROA and ROE means that profile education is important for understanding all peculiarities of the industry and being able to exploit the knowledge to the benefit of the company. Similar results were obtained in the research of [Sani, 2019]. Author identified that CEO education improves profitability and positively influence stock performance.

Hypothesis about CEO experience stated that experience of CEO in the industry of company operations measured by years is positively related to financial performance. This hypothesis could be accepted based on the results of regression model with EPS and DPS, however, for models with ROA and ROE the relationship was not significant. It means that previous experience of CEO is especially important to consider if company aims to increase its EPS indicator and attract investors in the stock market. This result goes in line with those obtained in the research of [Schnatterly et.al., 2008] where academics stated that CEO industry-specific skills and knowledge improve performance of the company.

Another hypothesis stated that CEO tenure is positively related to financial performance of the company. This hypothesis is accepted based on the ROA model meaning that the longer CEO takes his position the higher ROA company has. It could be related to the assumption that often CEO compensation is related to company performance measured by such indicators as ROA, EBITDA, sales growth and others. Therefore, CEOs might be prone to increase those indicators in order to be remunerated. Similar results were obtained in the research of [Garcia-Blandon et.al, 2019]. Moreover, according to the research of [Conte, 2017] tenured CEOs are associated with higher financial performance of the company and shareholder should consider appointing CEO for the extended period of time in order to ensure solid financial returns for the company.

However, the hypothesis is rejected for DPS model meaning that CEOs who occupy their positions for a long time pay less dividends compared to those who recently came to the company. This result corresponds to the conclusions of research conducted by [Likitratcharoen, 2011] where author identified that CEOs with longer tenure tend to pay less dividends since they prefer to invest earnings in R&D.

Hypothesis about CEO ownership stated that percentage of the shares owned by CEO is positively related to the financial performance of the company. However, the relationship in all models was insignificant meaning that the ownership of shares cannot influence in a substantial way the decisions of CEO regarding financial performance. Similar results were obtained by [Coles, McWiliams and Sen, 2001].

Next, the hypothesis about CEO busyness analyzed the relationship between CEOs membership in external boards of directors and financial performance of the company. According to the empirical results, this hypothesis could be accepted for all four models. The direction of the relationship is negative and the relationship is quite strong in EPS and DPS models. It confirms initial assumption that busy CEOs cannot devote enough time and efforts to develop effective strategical decision and execute necessary monitoring in their own companies that leads to worse financial performance. The result goes in line with the conclusion of the research [Harymawan et.al, 2019] where authors stated that firms with CEOs who hold two or more outside directorships, provide lower financial performance.

Finally, importance of political relations was analyzed with the help of the hypothesis about interconnections between CEO's political connections and company financial performance. The hypothesis was accepted based on the model with ROA and ROE as dependent variables, however, it was rejected for the DPS model. Results suggest that CEOs who previously used to took position in government and possess political connections positively influence ROA and ROE ratios. CEOs with political connections are able to attract grants and investments easier due to political favors, however, in turn CEOs have to provide solid financial returns for investors.

Regarding negative relationship between CEO's political connections and dividends payout, this result signifies that CEOs with political connections tend to pay less dividends. According to [Faccio, 2001] dividend payment is a monitoring mechanism since it prevents expropriation of available cash by managers. In research of [Benjamin et.al, 2016] it was identified that firms with politically connected CEOs pay less dividends and that political connections enhance the expropriation of firms' resources at the expense of shareholders. Moreover, authors found out positive relationship between presence of institutional investors among firm shareholders and dividends payout. According to the authors, managers of politically connected firms might prefer to expropriate resources for personal benefits or support political projects. Similar results were obtained in the research [Tian et.al, 2011]. Authors found out that political connections have negative relationship on firm's dividend ratios and probability of dividend payout.

To sum up, pollical connections of CEO could be at the same time beneficial for company in terms of financial performance but detrimental for minority shareholders if the amount of dividends is diminished in personal purposes of managers.

Four additional variables were analyzed besides nine main hypotheses discussed above. Those variables are CEO_Master, CEO_MBA, CEO_Crisis and CEO_Insider. CEO_Master and CEO_MBA show whether different academic degrees of CEO influence performance of the company. It could be seen that CEOs who obtained Master's Degree make decisions that positively influence financial performance of the company measured by EPS and DPS. This result could be explained by the fact that many CEOs obtained Bachelor's degree in engineering industry while Master's degree were obtained in management and economic spheres. It implies that during Master's studies CEOs were able to get better understanding of management theories and business structures. Regarding MBA degree, significant relationship was determined again in EPS and DPS models. This result implies that MBA degree matters for Russian business as well and allows managers run business more effectively in terms of financial performance compared to other companies.

For CEO_Crisis variable significant relationship was determined for ROA and ROE models meaning that CEOs who occupied CEO position during financial crisis obtained necessary knowledge and experience to rule effectively in unconventional situations.

Analysis of CEO_Insider variable allows to understand better patterns of CEO hiring. Companies often are involved in a trade-off between promoting CEO from inside or hiring a new one from another company. Both options have benefits and drawbacks. For instance, newcomer needs time to learn and adapt to the company while insiders already know everything regarding routine procedures, traditions and employees. However, at the same time current employees might

fall in the "experience trap" while being promoted to the CEO position. It means that tenured employees are so used to current rules and practices that they fail to change their vision and cannot come up with new approaches. According to the results of research [Koyuncu and Hamori, 2014] authors recommend companies hire individuals from other CEO positions, but first place them for one or two years in a middle position in the company. In authors opinion, this decision helps newcomers learn more about peculiarities of the company before starting to rule it.

Based on the results of the regression analysis in this paper it is possible to identify that variable CEO_Insider has not become significant in any model. It means that the presence of the relationship is not proven and it gives opportunity to return to this hypothesis with more in-depth analysis in future researches.

2.7. Managerial implications

CEO appointment is an important decision for any company since representatives of this position take major decisions about company development, manage resources of a company and act as communicators between Board of Directors and other stakeholders.

Numerous academic studies have been conducted on various corporate governance topics, however, most of them considered the influence of Board of Directors on company performance. Those studies that took into account characteristics of CEOs were mostly conducted for markets other than Russian and for those that analyzed Russian market the results were quite controversial. Moreover, such characteristics as political connections of Russian CEOs have not been researched yet at all.

This research provides both theoretical contribution to the field of studies of corporate governance in Russia and practical implications for the stakeholders who are involved in CEO appointment. The results of the study show that for different goals of the companies different personal traits of CEOs are more suitable than others.

Regarding theoretical contribution, this research fills the gap that was identified based on the literature review. The research provides actual up-to-date findings regarding the influence of CEO characteristics on financial performance of Russian companies. Moreover, in current research author has analyzed political connections of Russian CEOs and the relationship between political connections and financial performance for Russian market that has not been done before. Obtained results correspond to the conclusion of numerous academic studies and could be applied for future in-depth analysis of particular CEO characteristics.

The decision about CEO appointment in Russian companies is taken by Board of Directors or by General Meeting of Shareholders depending on the internal policies of the company.

Recruiters also help companies find appropriate candidates and conduct permanent analysis of the labor market.

In order to appoint the most suitable candidate stakeholders should match strategical goals of the company to the specific characteristics of CEO. The following implications should be taken into account by those stakeholders who are considering candidates for the CEO position.

The implications of the study could be divided into two groups – recommendations for those companies that aims to increase operational performance and recommendations for the that are more focused on dividends payout and company's attractiveness for shareholders.

First of all, older CEOs are associated both with higher economic efficiency of the company and greater attractiveness of the company for shareholders and investors. Therefore, older age should be considered as a factor that implies more experience of the CEO and contributes to the greater financial performance. At the same time, companies with busy CEOs tend to provide lower financial results and Board of Directors should critically evaluate the availability of CEOs time for effective management of the company. Moreover, ownership of shares does not serve as a key factor in financial performance, therefore it should not be considered as the main motivational factor for managers.

If the company sets the goal to improve operational efficiency and increase returns on assets, it, therefore, should pay attention to the candidates for CEO position who are not necessarily young and who does not take several memberships in external board of directors. It is desirable that CEO has educational background in the same industry of company's operations and have experience of work in key governmental position. It would be beneficial if CEO occupied CEO position in any company during global financial crisis and thus have necessary skills of managing company in the uncertain environment. Moreover, empirical results demonstrate that longer-tenured CEOs are able to provide higher return on assets for the companies, hence, CEO turnover could prevent achievement of sufficient financial result. When the emphasis is put on the increase of ROE, the same requirements for CEO should be met except for the tenure, since no relationship between tenure and ROE coefficient has been established. There is no significant difference whether current employee should be promoted or the candidate from another company attracted, hence, interested stakeholders should take into account that previous experience within the company does not play important role.

If the company is concentrated on the improvement of EPS ratio, Board of Directors should consider candidates for CEO position with sufficient experience in the industry of company operations. Tenure and educational background are not specified within these requirements, since no significant relationship has been determined, however, it is desirable that candidate obtained Master's Degree and even more preferably MBA Degree, since the latter appeared to be important

for high EPS coefficient. Moreover, CEO busyness as well is not considered as a positive factor for the goal of EPS increasing, therefore, recruiter and Board of Directors should pay attention to the number of external boards where candidate takes position. In terms of political connections, it is not required that candidate should possess any close political connections or have past experience of work in government, since this factor does not influence financial results measured by earnings per share.

Finally, if the company sets the goal to increase dividends payout and attract investors by providing positive information about company's stability and well-being, it should consider the following: candidates should be in the middle age and older, possess sufficient industry experience and don't have multiple memberships in external boards. Regarding education, it is desirable as well that candidate obtain Master's and MBA Degree, since the possession of those diplomas increase chances of higher dividends payout. The attention of the Board should be paid to the tenure of current CEO, since it was identified that longer-tenured CEOs tend to invest in R&D rather than paying dividends to shareholders. Therefore, CEO turnover is not detrimental for the company that aims to increase dividends payout. Political connections of CEO contribute to the lower dividends since by researchers it was determined that politically connected top managers could expropriate firms' resources for personal benefits at the expense of shareholders. Therefore, it is preferable that interested stakeholders will give preferences to CEOs without connections to the government.

All in all, recommendations provided above should be adjusted to the internal conditions and requirements of each company. However, the universality of implications allows to apply them for company of any industry considered in this research.

2.8. Research limitations

The goal of the study was to identify the relationship between CEO characteristics and financial performance of Russian companies measured by such accounting-based ratios as ROA, ROE, EPS and DPS. The goal was achieved and the research has contributed both to the academic study and helped to develop managerial implications. However, this study has some limitations that should be addressed in future researches.

The first limitation is related to the availability of data. Since financial data was extracted from databases, there could be some minor discrepancies, however, it does not significantly affect the total results of the research.

Next, since not all information about CEOs biography is available for public access, such characteristics as personal relations with family members and friends were estimated based on

public information. However, it is possible that some political relationships are not well-known by the public and hence are not taken into account in this research.

Finally, additional CEO characteristics could be analyzed in order to get more implications. For instance, it is possible to consider in the future research amount of CEO compensation, experience of work in financial sector and others.

However, despite the presence of certain limitations, the results of the research still provide managerial implications and could be taken into account by researchers in their future works. Moreover, results should be considered by stakeholders who are interested in the improvement of financial performance of their companies.

CONCLUSION

Effective corporate governance plays significant role in companies' performance since corporate governance mechanisms help reduce agency problem, improve operational efficiency and increase attractiveness of the company for investors. Many important decisions about current operations and future strategy of the company are taken by CEO.

The goal of this research paper was to identify the relationship between CEO characteristics and company financial performance measured by accounting based ratios, such as ROA, ROE, EPS, DPS. The sample for the study consisted of 71 public Russian companies included in Broad Market Index. To achieve this goal the author has completed the following objectives. First, theoretical framework of corporate governance and Russian practices have been studied. Next, literature review of academic studies devoted to the analysis of the relationship between CEO characteristics and financial performance has been conducted. Further, based on the literature review eight hypothesis were formulated and econometric regression model was built. Finally, managerial implications were provided in form of recommendations for Board of Directors and recruiters of the companies.

Previous researches on corporate governance topic mostly have analyzed the influence of Board members' characteristics on companies' performance. Those studies that were devoted to the analysis of CEO characteristics often provided controversial results, and for Russian market the relationship between CEOs political connections and financial performance has not been studied at all. Moreover, findings vary across countries due to differences in mentality of people, external and internal conditions, market structure and other factors. For instance, CEO busyness is viewed by some authors as positive signal for investors confirming expertise of CEO [Fama and Jensen, 1983], while other researchers came to conclusion that due to busyness CEOs do not possess enough time to pay sufficient attention for their companies [Fich and Shivdasani, 2006]. Regarding political connections, several studies identified positive influence of connections to government of firm performance [Faccio, 2010; Li et.al, 2008] while other came to a conclusion that politically connected CEOs have a sense of impunity and assume that they will stay unpunished for any infringements [Bourveau et al., 2014]. Therefore, the research gap was identified and up-to-date study was required in order to bring actual results and implications for Russian market.

In this research author supports the idea that CEO characteristics determine CEO behavior, attitude towards different situations and, consequently, taken decisions. Balmer in his work identified that personal characteristics and the experiences of CEO affect company's vision and the development of corporate reputation [Balmer, 2001]. Therefore, in the empirical part of the

study regression model has been built with the aim to identify relationship between various characteristics of CEO and financial performance of the companies.

The sample for the empirical study consists of 71 public Russian companies which were included in the Broad Market Index. Companies of various industries are included in the sample that makes obtained implications applicable for different companies. Information about CEOs characteristics was handpicked from companies' websites, SPARK and SCRIN databases, annual reports and news agencies for the period of 2015-2017 while financial data was retrieved from databased (Thomson Reuters Eikon, Bloomberg) for the period of 2016-2018. It was important to consider the lag effect that means that the current year financial performance is a result of CEO decisions made in the previous year.

The results of the study show that relationship between certain CEO characteristics and financial performance of the companies exists. Those findings about presence and direction of the relationship provide important implications for recruiter who are in charge for new CEO appointment and Boards of Directors.

The results of the empirical study support the following conclusions:

- CEO age does not have negative impact on financial performance of the companies.
 Further, CEOs in middle and old ages tend to provide higher financial results measured by ROA, ROE, EPS, DPS;
- CEO' educational background in the industry of company's operations has positive impact on operational efficiency measured by ROA and ROE, however, does not significantly influence EPS and DPS;
- Industry experience of CEO has positive impact on EPS and DPS, however, does not significantly influence ROA and ROE;
- Longer-tenured CEOs tend to help companies achieve higher ROA coefficient, however, prefer not to pay out high dividends; ROE and EPS ratios are not affected by the tenure;
- Percentage of shares owned by CEO does not have significant relationship with any measure of the financial performance studied in this research;
- Busyness of CEO has negative impact on the financial performance of the company measured by ROA, ROE, EPS, DPS;
- Political connections of CEO have positive relationship with economic efficiency of the company measured by ROA, on the other hand, relationship with dividends payout is negative. ROE and EPS ratios are not affected by political connections.

- CEO's experience of ruling the company during the global financial crisis is positively related to ROA and ROE while EPS and DPS ratios are not influenced.
- CEO's possession of Master's and MBA Degrees has positive impact both on EPS and DPS ratios, however, it does not influence ROA and ROE indicators.
- Financial performance of the companies is not affected depending on whether the CEO was promoted from inside or hired from another companies.

This study provides both theoretical and practical contributions. It extends the pool of researches on the topic of corporate governance, in particular on the topic of the importance of CEOs characteristics for financial performance of Russian companies. The results obtained could be taken into account together with limitations by future researchers in their studies.

Practical contribution of the study is related to the managerial implications that should be taken into account by stakeholders who take part in CEO appointment process. Based on the goals set by the company, recruiters and Board of Directors could pay more or less attention to the specific characteristics of candidates since certain treats of CEOs are more appropriate for the specific goals than others.

The research has several limitations which should be taken into account while considering implications of the study and conducting further researches. First, financial data is retrieved from databases that could provide some minor discrepancies with actual numbers. Second, within conditions of Russian environment, some political connections of CEOs are not transparent and thus could be missed in the research. Third, additional characteristics of CEOs could be analyzed in order to get more implications.

To conclude, the goal of the research was achieved and the relationship between CEO characteristics and company financial performance measured by accounting-based measures was analyzed. Despite some limitations, the study provides valuable theoretical and practical implications that could be considered both by academics and managers of the companies.

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Appendices

Appendix 1. List of the companies

	Company name	Ticker	Industry
1	Aeroflot-Rossiyskiye Avialinii PAO	AFLT	Airline (Other)
2	AFK Sistema PAO	AFKS	Telecommunication
3	AK Alrosa PAO	ALRS	Metals & Mining
4	Akron PAO	AKRN	Chemical
5	ANK Bashneft' PAO	BANE	Oil & Gas
6	Aptechnaya Set' 36,6 PAO	APTK	Pharmaceutical (Other)
7	Ashinskiy Metzavod PAO	AMEZ	Metals & Mining
8	Aviakompaniya UTair PAO	UTAR	Airline (Other)
9	Avtovaz PAO	AVAZ	Automotive (Other)
10	Chelyabinskiy Metallurgicheskiy Kombinat PAO	CHMK	Metals & Mining
11	Dal'nevostochnaya Energeticheskaya Kompaniya PAO	DVEC	Energy
12	Dixy Group PAO	DIXY	Retail
13	Enel Rossiya PAO	ENRU	Energy
14	Federal Hydro-Generating Company RusHydro PAO	HYDR	Energy
15	FSK YeES PAO	FEES	Energy
16	Gaz PAO	GAZA	Automotive (Other)
17	Gazprom PAO	GAZP	Oil & Gas
18	GMK Noril'skiy Nikel' PAO	GMKN	Metals & Mining
19	Gruppa Kompaniy PIK PAO	PIKK	Real Estate (Other)
20	Gruppa LSR PAO	LSRG	Real Estate (Other)
21	Inter RAO EES PAO	IRAO	Energy
22	Irkutskenergo PAO	IRGZ	Energy
23	Korporatsiya VSMPO-AVISMA PAO	VSMO	Metals & Mining
24	Kuzbasskaya Toplivnaya Kompaniya PAO	KBTK	Energy
25	Lenenergo PAO	LSNG	Energy
26	Lenta PAO	LNTA	Retail
27	Lenozoloto PAO	LNZL	Metals & Mining
28	MegaFon PAO	MFON	Telecommunication
29	Magnit PAO	MGNT	Retail
30	Magnitogorskiy Metallurgicheskiy Kombinat PAO	MAGN	Metals & Mining
31	Mechel PAO	MTLR	Metals & Mining
32	Mezhregional'naya Raspredelitel'naya Setevaya	MRKU	Energy
	Kompaniya Urala OAO		
33	Mobil'nye Telesistemy PAO	MTSS	Telecommunication
34	MOESK PAO	MSRS	Energy
35	Mosenergo PAO	MSNG	Energy

37 Mostotrest PAO MSTT Constructions (Other) 38 MRSK Tsentra PAO MRKC Energy 39 MRSK Volgi PAO MRKV Energy 40 Nizhnekamskneftekhim PAO NKNC Oil & Gas 41 NK Lukoil PAO LKOH Oil & Gas 42 NK Rosneft PAO ROSN Oil & Gas 43 Novatck PAO NVTK Oil & Gas 44 Novolipetsk Steel PAO NLMK Metals & Mining 45 Novorossiyskiy Morskoy Torgovyi Port PAO NMTP Logistics (Other) 46 OGK-2 PAO OGKB Energy 47 Organicheskiy Sintez KPAO KZOS Chemical 48 PhosAgro PAO PHOR Chemical 49 Polyus PAO PLZL Metals & Mining 50 Protek PAO PRTK Pharmaceutical (Other) 51 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy 52 Raspadskaya PAO RASP Metals & Mining 53 </th <th>36</th> <th>Moskovskaya Gorodskaya Telefonnaya Set' PAO</th> <th>MGTS</th> <th>Telecommunication</th>	36	Moskovskaya Gorodskaya Telefonnaya Set' PAO	MGTS	Telecommunication
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40 Nizhnekanskneftekhim PAO NKNC Oil & Gas 41 NK Lukoil PAO LKOH Oil & Gas 42 NK Rosneft' PAO ROSN Oil & Gas 43 Novatek PAO NVTK Oil & Gas 44 Novolipetsk Steel PAO NLMK Metals & Mining Aboverossiyskiy Morskoy Torgovyi Port PAO NMTP Logistics (Other) Coffice PAO OGK-2 PAO OGKB Energy Organicheskiy Sintez KPAO ROSN OGKB Energy Organicheskiy Sintez KPAO READ Phos Agro PAO PHOR Chemical Phos Polyus PAO Pluz Metals & Mining Protek PAO Protek PAO PRTK Pharmaceutical (Other) PRTK Pharmaceutical (Other) PRTK Pharmaceutical (Other) PRTK ROST RASP Metals & Mining READ ROST RASP Metals & Mining READ ROST RASP ROST ROST RASP ROST RASP ROST RASP ROST RASP ROST RASP ROST RASP ROST	38	MRSK Tsentra PAO	MRKC	Energy
NK Lukoil PAO	39	MRSK Volgi PAO	MRKV	Energy
42 NK Rosneft PAO ROSN Oil & Gas 43 Novatek PAO NVTK Oil & Gas 44 Novolipetsk Steel PAO NLMK Metals & Mining 45 Novorossiyskiy Morskoy Torgovyi Port PAO NMTP Logistics (Other) 46 OGK-2 PAO OGKB Energy 47 Organicheskiy Sintez KPAO KZOS Chemical 48 PhosAgro PAO PHOR Chemical 49 Polyus PAO PLZL Metals & Mining 50 Protek PAO PRTK Pharmaceutical (Other) 51 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy 52 Raspadskaya PAO RASP Metals & Mining 53 RBK PAO RBCM Media (Other) 54 Rostelekom PAO RTKM Telecommunication 55 Rusal RUAL Metals & Mining 57 Russkaya Akvakul'tura PAO AQUA Agriculture (Other) 58 Seligdar PAO SELG Metals & Mining 59 Severstal' PAO SNGS Oil & Gas 61	40	Nizhnekamskneftekhim PAO	NKNC	Oil & Gas
43 Novatek PAO NVTK Oil & Gas 44 Novolipetsk Steel PAO NLMK Metals & Mining 45 Novorossiyskiy Morskoy Torgovyi Port PAO NMTP Logistics (Other) 46 OGK-2 PAO OGKB Energy 47 Organicheskiy Sintez KPAO KZOS Chemical 48 PhosAgro PAO PHOR Chemical 49 Polyus PAO PLZL Metals & Mining 50 Protek PAO PRTK Pharmaceutical (Other) 51 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy 52 Raspadskaya PAO RASP Metals & Mining 53 RBK PAO RBCM Media (Other) 54 Rostelekom PAO RTKM Telecommunication 55 Rusal RUAL Metals & Mining 56 Rusal RUAL Metals & Mining 57 Russkaya Akvakul'tura PAO AQUA Agriculture (Other) 58 Seligdar PAO SELG Metals & Mining 59 Severstal' PAO SNGS Oil & Gas 61 <td>41</td> <td>NK Lukoil PAO</td> <td>LKOH</td> <td>Oil & Gas</td>	41	NK Lukoil PAO	LKOH	Oil & Gas
44 Novolipetsk Steel PAO NLMK Metals & Mining 45 Novorossiyskiy Morskoy Torgovyi Port PAO NMTP Logistics (Other) 46 OGK-2 PAO OGKB Energy 47 Organicheskiy Sintez KPAO KZOS Chemical 48 PhosAgro PAO PHOR Chemical 49 Polyus PAO PETL Metals & Mining 50 Protek PAO PRTK Pharmaceutical (Other) 51 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy 52 Raspadskaya PAO RASP Metals & Mining 53 RBK PAO RBCM Media (Other) 54 Rostelekom PAO RTKM Telecommunication 55 Rusal RUAL Metals & Mining 56 Rusal RUAL Metals & Mining 57 Russkaya Akvakul'tura PAO AQUA Agriculture (Other) 58 Seligdar PAO SELG Metals & Mining 59 Severstal' PAO CHMF Metals & Mining 60 Surgutneftegaz PAO SNGS Oil & Gas	42	NK Rosneft' PAO	ROSN	Oil & Gas
45 Novorossiyskiy Morskoy Torgovyi Port PAO NMTP Logistics (Other) 46 OGK-2 PAO OGKB Energy 47 Organicheskiy Sintez KPAO KZOS Chemical 48 PhosAgro PAO PHOR Chemical 49 Polyus PAO PLZL Metals & Mining 50 Protek PAO PRTK Pharmaceutical (Other) 51 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy 52 Raspadskaya PAO RASP Metals & Mining 53 RBK PAO RBCM Media (Other) 54 Rostelekom PAO RTKM Telecommunication 55 Rusal RUAL Metals & Mining 56 Rusal RUAL Metals & Mining 57 Russkaya Akvakul'tura PAO AQUA Agriculture (Other) 58 Seligdar PAO SELG Metals & Mining 59 Severstal' PAO CHMF Metals & Mining 60 Surgutneftegaz PAO SNGS Oil & Gas 61 Tatneft' PAO TATN Oil & Gas 62	43	Novatek PAO	NVTK	Oil & Gas
46 OGK-2 PAO OGKB Energy 47 Organicheskiy Sintez KPAO KZOS Chemical 48 PhosAgro PAO PHOR Chemical 49 Polyus PAO PLZL Metals & Mining 50 Protek PAO PRTK Pharmaceutical (Other) 51 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy 52 Raspadskaya PAO RASP Metals & Mining 53 RBK PAO RBCM Media (Other) 54 Rostelekom PAO RTKM Telecommunication 55 Rusagro PAO AGRO Agriculture (Other) 56 Rusal RUAL Metals & Mining 57 Russkaya Akvakul'tura PAO AQUA Agriculture (Other) 58 Seligdar PAO SELG Metals & Mining 59 Severstal' PAO CHMF Metals & Mining 60 Surgutneftegaz PAO SNGS Oil & Gas 61 Tatneft' PAO TATN Oil & Gas 62 Tattelekom PAO TGKA Energy 64 T Plyus PAO TGKA Energy 65 TransContainer PAO TRON TRON Logistics (Other) 66 Transneft' PAO TRON TRON Logistics (Other) 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex	44	Novolipetsk Steel PAO	NLMK	Metals & Mining
A	45	Novorossiyskiy Morskoy Torgovyi Port PAO	NMTP	Logistics (Other)
48PhosAgro PAOPHORChemical49Polyus PAOPLZLMetals & Mining50Protek PAOPRTKPharmaceutical (Other)51Quadra-Generiruyushchaya Kompaniya PAOTGKDEnergy52Raspadskaya PAORASPMetals & Mining53RBK PAORBCMMedia (Other)54Rostelekom PAORTKMTelecommunication55Rusagro PAOAGROAgriculture (Other)56RusalRUALMetals & Mining57Russkaya Akvakul'tura PAOAQUAAgriculture (Other)58Seligdar PAOSELGMetals & Mining59Severstal' PAOCHMFMetals & Mining60Surgutneftegaz PAOSNGSOil & Gas61Tatneft' PAOTATNOil & Gas62Tattelekom PAOTTLKTelecommunication63TGK-1 PAOTGKAEnergy64T Plyus PAOTRCNLogistics (Other)65TranscOntainer PAOTRCNLogistics (Other)66Transneft' PAOTRNFPOil & Gas67Trubnaya Metallurgicheskaya Kompaniya PAOTRMKMetals & Mining68Tsentral'nyi Telegraf PAOCNTLTelecommunication69Uralkaliy PAOUrakaChemical70YandexYNDXIT (Other)	46	OGK-2 PAO	OGKB	Energy
PLZL Metals & Mining Protek PAO Protek PAO PRTK Pharmaceutical (Other) Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy RASP Metals & Mining RASP Metals & Mining RBCM Media (Other) RRKM Telecommunication RRKM Telecommunication Rusal RUAL Metals & Mining Russkaya Akvakul'tura PAO Rusal RUAL Metals & Mining Russkaya Akvakul'tura PAO SELG Metals & Mining Severstal' PAO SELG Metals & Mining Surgutneftegaz PAO SNGS Oil & Gas Tattneft' PAO TATN Oil & Gas TILK Telecommunication TGK-1 PAO TGKA Energy TGK-1 PAO TGKA Energy TRON Logistics (Other) TRON Logistics (Other) TRON Logistics (Other) TRON Logistics (Other) TRON Metals & Mining TRON TRON Metals & Mining TRON Logistics (Other) TRON Logistics (Other) TRON TRON Metals & Mining TRON TRON Metals & Mining TRON Logistics (Other) TRON TRON Metals & Mining TRON TRON Metals & Mining TRON	47	Organicheskiy Sintez KPAO	KZOS	Chemical
PRTK Pharmaceutical (Other) PRTK Pharmaceutical (Other) Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy RASP Metals & Mining RBK PAO RBCM Media (Other) ROSTELEKOM PAO RBCM Media (Other) RIKM Telecommunication RIKM Telecommunication RUAL Metals & Mining THAN Oil & Gas CHMF Metals & Mining RUAL Metals & Mining TATN Oil & Gas TATN Oil & Gas TATN Oil & Gas TILK Telecommunication TGKA Energy TRON Logistics (Other) TRON Logistics (Other) TRON Logistics (Other) TRON Trubnaya Metallurgicheskaya Kompaniya PAO TRON TRON TRON RUSH PAO TRON LOGISTICS (Other) TRON TRON Metals & Mining RUAL Metals & Mining TRON LOGISTICS (Other)	48	PhosAgro PAO	PHOR	Chemical
S1 Quadra-Generiruyushchaya Kompaniya PAO TGKD Energy RASP Metals & Mining RBK PAO RBCM Media (Other) RTKM Telecommunication S1 Rusagro PAO RUAL Metals & Mining THMF Metals & Mining RUAL Metals & Mining TUAL Metals & Mining RUAL Metals & Mining RUAL Metals & Mining RUAL Metals & Mining TUAL T	49	Polyus PAO	PLZL	Metals & Mining
RASP Metals & Mining RBK PAO RBCM Media (Other) ROSTELEKOM PAO RTKM Telecommunication RUAL Metals & Mining SELG Metals & Mining RUAL RUAL RUAL RUAL RUAL RUAL RUAL RUAL	50	Protek PAO	PRTK	Pharmaceutical (Other)
RBK PAO RBCM Media (Other) RTKM Telecommunication Rusagro PAO RUSAL Metals & Mining Rusakaya Akvakul'tura PAO SELG Metals & Mining Severstal' PAO CHMF Metals & Mining Surgutneftegaz PAO SNGS Oil & Gas TATN Oil & Gas TATN Oil & Gas TATN TILK Telecommunication TGKA Energy TGKA Energy TRON TRON Logistics (Other) TRON TRON TRON TRON TRON TRON TRON TRON	51	Quadra-Generiruyushchaya Kompaniya PAO	TGKD	Energy
54Rostelekom PAORTKMTelecommunication55Rusagro PAOAGROAgriculture (Other)56RusalRUALMetals & Mining57Russkaya Akvakul'tura PAOAQUAAgriculture (Other)58Seligdar PAOSELGMetals & Mining59Severstal' PAOCHMFMetals & Mining60Surgutneftegaz PAOSNGSOil & Gas61Tatneft' PAOTATNOil & Gas62Tattelekom PAOTTLKTelecommunication63TGK-1 PAOTGKAEnergy64T Plyus PAOVTGKEnergy65TransContainer PAOTRCNLogistics (Other)66Transneft' PAOTRNFPOil & Gas67Trubnaya Metallurgicheskaya Kompaniya PAOTRMKMetals & Mining68Tsentral'nyi Telegraf PAOCNTLTelecommunication69Uralkaliy PAOURKAChemical70YandexYNDXIT (Other)	52	Raspadskaya PAO	RASP	Metals & Mining
AGRO Agriculture (Other) Rusal RUAL Metals & Mining Ruskaya Akvakul'tura PAO AQUA Agriculture (Other) Russkaya Akvakul'tura PAO SELG Metals & Mining Seligdar PAO SELG Metals & Mining Severstal' PAO CHMF Metals & Mining Surgutneftegaz PAO SNGS Oil & Gas Tatneft' PAO TATN Oil & Gas Tattelekom PAO TGKA Energy TRIVE Telecommunication TRIVE TELECOMMUNICATION CONTROL TRANSCONTAINER PAO TRANSCONTAINER CONTROL TRANSCONTAINER PAO TRANSCONTAINER CONTROL TRANSCONTAINER PAO TRANSCONTAINER CONTROL TRANSPORT OIL & Gas Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining TRANSCONTAINER PAO CONTROL TRANSCONTAINER METALLE MINING TELECOMMUNICATIONER CONTROL TRANSCONTAINER METALLE MINING TELECOMMUNICATIONER TRANSCONTAINER METALLE MINING TRANSCONTAINER METALLE MINING TRANSCONTAINER METALLE MINING TRANSCONTAINER METALLE MINING TELECOMMUNICATIONER TRANSCONTAINER TR	53	RBK PAO	RBCM	Media (Other)
56RusalRUALMetals & Mining57Russkaya Akvakul'tura PAOAQUAAgriculture (Other)58Seligdar PAOSELGMetals & Mining59Severstal' PAOCHMFMetals & Mining60Surgutneftegaz PAOSNGSOil & Gas61Tatneft' PAOTATNOil & Gas62Tattelekom PAOTTLKTelecommunication63TGK-1 PAOTGKAEnergy64T Plyus PAOVTGKEnergy65TransContainer PAOTRCNLogistics (Other)66Transneft' PAOTRNFPOil & Gas67Trubnaya Metallurgicheskaya Kompaniya PAOTRMKMetals & Mining68Tsentral'nyi Telegraf PAOCNTLTelecommunication69Uralkaliy PAOURKAChemical70YandexYNDXIT (Other)	54	Rostelekom PAO	RTKM	Telecommunication
57 Russkaya Akvakul'tura PAO AQUA Agriculture (Other) 58 Seligdar PAO SELG Metals & Mining 59 Severstal' PAO CHMF Metals & Mining 60 Surgutneftegaz PAO SNGS Oil & Gas 61 Tatneft' PAO TATN Oil & Gas 62 Tattelekom PAO TTLK Telecommunication 63 TGK-1 PAO TGKA Energy 64 T Plyus PAO VTGK Energy 65 TransContainer PAO TRCN Logistics (Other) 66 Transneft' PAO TRNFP Oil & Gas 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	55	Rusagro PAO	AGRO	Agriculture (Other)
58Seligdar PAOSELGMetals & Mining59Severstal' PAOCHMFMetals & Mining60Surgutneftegaz PAOSNGSOil & Gas61Tatneft' PAOTATNOil & Gas62Tattelekom PAOTTLKTelecommunication63TGK-1 PAOTGKAEnergy64T Plyus PAOVTGKEnergy65TransContainer PAOTRCNLogistics (Other)66Transneft' PAOTRNFPOil & Gas67Trubnaya Metallurgicheskaya Kompaniya PAOTRMKMetals & Mining68Tsentral'nyi Telegraf PAOCNTLTelecommunication69Uralkaliy PAOURKAChemical70YandexYNDXIT (Other)	56	Rusal	RUAL	Metals & Mining
59 Severstal' PAO CHMF Metals & Mining 60 Surgutneftegaz PAO SNGS Oil & Gas 61 Tatneft' PAO TATN Oil & Gas 62 Tattelekom PAO TTLK Telecommunication 63 TGK-1 PAO TGKA Energy 64 T Plyus PAO TRCN Logistics (Other) 65 TransContainer PAO TRNFP Oil & Gas 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex TATN Oil & Gas TATN Hetals & Mining CNTL Telecommunication URKA Chemical TIT (Other)	57	Russkaya Akvakul'tura PAO	AQUA	Agriculture (Other)
60 Surgutneftegaz PAO SNGS Oil & Gas 61 Tatneft' PAO TATN Oil & Gas 62 Tattelekom PAO TTLK Telecommunication 63 TGK-1 PAO TGKA Energy 64 T Plyus PAO VTGK Energy 65 TransContainer PAO TRCN Logistics (Other) 66 Transneft' PAO TRUNPP Oil & Gas 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO URKA Chemical 70 Yandex VTGK TATN Oil & Gas TRNFP Oil & Gas TRNFP Oil & Gas	58	Seligdar PAO	SELG	Metals & Mining
61 Tatneft' PAO 62 Tattelekom PAO 63 TGK-1 PAO 64 T Plyus PAO 65 TransContainer PAO 66 Transneft' PAO 67 Trubnaya Metallurgicheskaya Kompaniya PAO 68 Tsentral'nyi Telegraf PAO 69 Uralkaliy PAO 60 TATN 61 TATN 62 TATN 63 TGKA 64 Energy 65 TRCN 66 Energy 66 TRNFP 67 TRNFP 68 Tsentral'nyi Telegraf PAO 68 Tsentral'nyi Telegraf PAO 69 Uralkaliy PAO 60 URKA 61 Trubnaya Metallurgicheskaya Kompaniya PAO 65 Trubnaya Metallurgicheskaya Kompaniya PAO 66 TRMK 67 Trubnaya Metallurgicheskaya Kompaniya PAO 68 Tsentral'nyi Telegraf PAO 69 Uralkaliy PAO 70 Yandex 70 Yandex	59	Severstal' PAO	CHMF	Metals & Mining
62Tattelekom PAOTTLKTelecommunication63TGK-1 PAOTGKAEnergy64T Plyus PAOVTGKEnergy65TransContainer PAOTRCNLogistics (Other)66Transneft' PAOTRNFPOil & Gas67Trubnaya Metallurgicheskaya Kompaniya PAOTRMKMetals & Mining68Tsentral'nyi Telegraf PAOCNTLTelecommunication69Uralkaliy PAOURKAChemical70YandexYNDXIT (Other)	60	Surgutneftegaz PAO	SNGS	Oil & Gas
63TGK-1 PAOTGKAEnergy64T Plyus PAOVTGKEnergy65TransContainer PAOTRCNLogistics (Other)66Transneft' PAOTRNFPOil & Gas67Trubnaya Metallurgicheskaya Kompaniya PAOTRMKMetals & Mining68Tsentral'nyi Telegraf PAOCNTLTelecommunication69Uralkaliy PAOURKAChemical70YandexYNDXIT (Other)	61	Tatneft' PAO	TATN	Oil & Gas
64 T Plyus PAO VTGK Energy 65 TransContainer PAO TRCN Logistics (Other) 66 Transneft' PAO TRNFP Oil & Gas 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	62	Tattelekom PAO	TTLK	Telecommunication
65 TransContainer PAO TRCN Logistics (Other) 66 Transneft' PAO TRNFP Oil & Gas 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	63	TGK-1 PAO	TGKA	Energy
66 Transneft' PAO TRNFP Oil & Gas 67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	64	T Plyus PAO	VTGK	Energy
67 Trubnaya Metallurgicheskaya Kompaniya PAO TRMK Metals & Mining 68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	65	TransContainer PAO	TRCN	Logistics (Other)
68 Tsentral'nyi Telegraf PAO CNTL Telecommunication 69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	66	Transneft' PAO	TRNFP	Oil & Gas
69 Uralkaliy PAO URKA Chemical 70 Yandex YNDX IT (Other)	67	Trubnaya Metallurgicheskaya Kompaniya PAO	TRMK	Metals & Mining
70 Yandex YNDX IT (Other)	68	Tsentral'nyi Telegraf PAO	CNTL	Telecommunication
	69	Uralkaliy PAO	URKA	Chemical
71 Yunipro PAO UPRO Energy	70	Yandex	YNDX	IT (Other)
	71	Yunipro PAO	UPRO	Energy

Appendix 2. Pearson correlation matrix

Table 8. Correlation matrix [1]

	ROA	ROE	lnEPS	lnDPS	Size	Leverage	Current ratio	
ROA	1							
ROE	0.4944	1						
lnEPS	0.0580	0.0516	1					
lnDPS	0.0619	0.0733	0.8473	1				
Size	0.1669	0.1184	0.1843	0.1928	1			
Leverage	-0.0251	0.3008	-0.0246	-0.0132	0.0588	1		
Current ratio	0.2773	0.2328	0.0897	0.0968	0.1666	-0.0534	1	
Age	0.0991	0.0890	0.0007	0.0210	-0.1637	0.0472	0.0120	
CEO_Ownership	-0.0119	0.0074	0.0036	0.0221	0.0347	-0.0296	0.0025	
CEO_Busyness	-0.0764	-0.0591	-0.0455	-0.0325	0.1608	0.0759	0.0912	
CEO_PC	0.0014	0.0258	0.0506	-0.0494	0.1389	-0.0298	-0.0599	
CEO_PC_relations	0.0452	0.0744	-0.2012	-0.1519	0.2910	-0.1115	-0.0921	
CEO_Gender	-	-	-	-	-	-	-	
CEO_Age	0.0307	0.0634	0.2109	0.1540	0.2405	0.0336	-0.1398	
CEO_Tenure	0.0402	-0.0573	0.0957	-0.1115	0.1137	-0.1151	0.1316	
CEO_Ed_Industry	-0.0611	0.0595	-0.0677	0.1100	-0.1511	0.0355	-0.1454	
CEO_Master	0.0264	-0.0441	0.1355	0.1109	0.2279	0.0061	0.0265	
CEO_MBA	0.0748	0.1128	0.0795	0.0794	0.1230	0.1996	-0.0787	
CEO_Experience	0.0696	-0.1285	0.0703	0.1005	0.0289	-0.0348	-0.1150	
CEO_Crisis	0.0468	0.1175	0.0214	0.0918	0.1201	0.0011	-0.0094	
CEO_Insider	-0.0380	-0.0642	0.1226	-0.1446	-0.1890	-0.0084	-0.0820	

Table 9. Correlation matrix [2]

	Age	CEO_	CEO_	CEO_	CEO_PC_	CEO_	CEO_
		Ownership	Busyness	PC	relations	Gender	Age
Age	1						
CEO_Ownership	-0.0855	1					
CEO_Busyness	-0.2042	0.1195	1				
CEO_PC	0.0252	-0.1451	0.0671	1			
CEO_PC_relations	0.1906	0.0802	-0.0671	0.1110	1		
CEO_Gender	-	-	-	-	-	-	-
CEO_Age	0.1019	-0.0745	-0.1385	0.1772	0.0519	-	1
CEO_Tenure	0.1320	0.3923	0.0026	0.0435	0.1705	-	0.3934
CEO_Ed_Industry	-0.0468	-0.1143	-0.3126	-0.0699	-0.0844	-	0.3337
CEO_Master	-0.0975	0.0325	0.0328	0.1971	-0.1722	-	0.0873
CEO_MBA	0.0466	-0.0886	-0.0116	0.1075	0.0753	-	-0.0792

CEO_Experience	0.0474	0.0407	-0.2702	-0.0415	-0.1409	-	0.4776
CEO_Crisis	0.0619	-0.2073	-0.1212	-0.1468	0.1350	-	0.1794
CEO_Insider	-0.0332	0.0508	-0.2446	-0.2427	-0.0547	-	-0.1007

Table 10. Correlation matrix [3]

	CEO_	CEO_	CEO_	CEO_	CEO_	CEO_	CEO_
	Tenure	Ed_Industry	Master	MBA	Experience	Crisis	Insider
CEO_Tenure	1						
CEO_Ed_Industry	0.0181	1					
CEO_Master	0.0789	0.0918	1				
CEO_MBA	0.0011	-0.0956	0.2793	1			
CEO_Experience	0.3817	0.3130	0.0583	-0.1516	1		
CEO_Crisis	0.1813	-0.0048	-0.0936	0.1888	0.0754	1	
CEO_Insider	-0.0205	0.2556	-0.1124	0.1421	0.2229	-0.0152	1