Saint Petersburg State University

Graduate School of Management

Master in Corporate Finance

Audit quality, board committees and corporate performance:
a study of Russian public companies

Master's Thesis by 2nd year student

Concentration – MCF (Corporate Finance)

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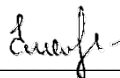
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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

Я, Емельяненкова Дарья Сергеевна, студентка второго курса магистратуры направления «Корпоративные финансы», заявляю, что в моей магистерской диссертации на тему «Качество аудита, комитеты совета директоров и результативность деятельности: исследование российских публичных компаний», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

Все прямые заимствования из печатных и электронных источников, а также из защищенных ранее выпускных квалификационных работ, кандидатских и докторских диссертаций имеют соответствующие ссылки.

Мне известно содержание п. 9.7.1 Правил обучения по основным образовательным программам высшего и среднего профессионального образования в СПбГУ о том, что «ВКР выполняется индивидуально каждым студентом под руководством назначенного ему научного руководителя», и п. 51 Устава федерального государственного бюджетного образовательного учреждения высшего профессионального образования «Санкт-Петербургский государственный университет» о том, что «студент подлежит отчислению из Санкт-Петербургского университета за представление курсовой или выпускной квалификационной работы, выполненной другим лицом (лицами)».

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STATEMENT ABOUT THE INDEPENDENT CHARACTER OF THE MASTER THESIS

I, Emelyanenkova Darya, second year master student, program «Corporate Finance», state that my master thesis on the topic "Audit quality, board committees and corporate performance: a study of Russian public companies", which is presented to the Master Office to be submitted to the Official Defense Committee for the public defense, does not contain any elements of plagiarism.

All direct borrowings from printed and electronic sources, as well as from master theses, PhD and doctorate theses which were defended earlier, have appropriate references.

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27.05.2021 _____ (Date)

АННОТАЦИЯ

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Факультет	Высшая школа менеджмента
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Описание цели, задач и основных результатов	Сегодня многие регуляторы устанавливают требования компаниям относительно аудита и структуры совета директоров. Однако акционерам и менеджменту компаний не всегда очевидно, являются ли эти изменения выгодными для компании. Цель данного исследования – изучить взаимосвязь между качеством аудита, структурой совета директоров (и его комитетами) и результативностью деятельности российских публичных компаний. Для достижения данной цели был проведен анализ литературы для понимания основных компонентов исследования (совет директоров, его комитеты, аудит и качество аудита) и анализ существующих исследований на выбранную тему. После этого были сформулированы гипотезы и проведено эмпирическое исследование. На основе полученных результатов были сформулированы практические рекомендации. Результаты исследования показывают положительную взаимосвязь между качеством аудита (показателем высокого качества является аудитор из Большой четверки, основываясь на отрицательной связи данной переменной с показателем манипулирования прибылью) и характеристиками совета директоров: независимостью совета и его комитетов, а также наличием трех основных комитетов (по аудиту, назначениям и вознаграждениям, стратегии). Однако, не было получено однозначных результатов относительно взаимосвязи данных показателей с финансовой результативностью компаний.
Ключевые слова	Качество аудита, корпоративное управление, комитеты совета директоров, финансовая результативность, российские компании

ABSTRACT

Master Student's Name	Darya S. Emelyanenkova
Master Thesis Title	Audit quality, board committees and corporate performance: a study of Russian public companies
Faculty	Graduate School of Management
Major Subject	38.04.02 "Management", Corporate Finance (MCF)
Year	2021
Academic Advisor's Name	Yulia B. Ilina
Description of the goal, tasks and main results	Nowadays many regulators have strict requirements for companies about the audit and board structure. However, it is not obvious for shareholders and company's management whether these items are beneficial for company's performance or not. The goal of this research is to investigate the relationship between audit quality, board structure (board committees) and the performance of the Russian public companies. To reach the goal several tasks have been completed: deep literature review to get understanding of the main components of the research (board of directors, board committees, audit and audit quality); analysis of the existing research on the topic of study. After that the hypotheses of the research have been formulated and the empirical study was conducted. Finally, there were formulated managerial implications based on the results. The results of the research show the positive relationship between the audit quality (measured as Big-4 auditor based on negative relationship with the earnings manipulation metrics) and such board characteristics as board independence and its committee independence, and also with the presence of three main committees (audit, remuneration and strategy). However, no clear results were obtained on the company's performance.
Keywords	Audit quality, corporate governance, board committees, financial performance, Russian companies

CONTENTS

INTRODUCTION

Nowadays for many companies all over the world it became obligatory to audit the company's financial statements. For example, in Russia according to the section 5 of the Federal law №307-ФЗ from 30.12.2008 "On audit activities" there is a list of parameters when the audit is mandatory. One of the conditions is that the company is public. As this research is aimed only at the analysis of Russian public companies, we assume that all of them are obliged to pass an audit verification. Moreover, companies (especially public) have strict requirements on the corporate governance system and board structure. However, it is not quite clear whether audit and exact board characteristics are beneficial to the companies or they are just an additional expense item.

To answer this question the author is supposed to study how audit may be organized in the companies (both internal and external), which characteristics of the board are supposed to be effective by the Code of corporate governance, which factors may influence the audit quality, and finally how audit quality and corporate governance relate to the company's performance. In Russia there are few studies that analyze both the factors influencing the audit quality and at the same time its effect on the performance of the analyzed entity.

As it was mentioned earlier the research will include the analysis of both internal and external audits that companies are involved in and some characteristics of the board (such as independence, organization of special board committees). External audit includes (according to Federal law №307-ФЗ) independent verification of the accounting (financial) statements of the audited entity in order to express an opinion on the reliability of such statements. This one is mandatory for the companies from the sample. By internal audit in this study, we will mean the existence and work of audit committee in the company. Audit committee is formed from the members of the board of directors of the company, mostly includes independent directors and is responsible for the control over the financial statements, oversight of the accounting principles and internal control processes, control over the selection and work of external auditors, and receipt of audit results both internal and external. This one may be voluntary (but for some companies, for example first- and second-level companies at MOEX it is also obligatory).

Moreover, in 2014 Central Bank of Russia introduced Corporate Governance Code that recommends organizing different committees in Russian companies, including audit committee, remuneration committee, and strategy one. The main problem is that after the recommendations Russian public entities started to hastily form revision commissions and audit committees, however, generally they are still formal. Recommendations for other committees are met even more seldom. It

is made not to improve company's efficiency, but to increase the attractiveness for investors because of the common opinion that the existence of such committees raises the transparency of the financial statements of the company and reduces the opportunity of earnings manipulations in the company.

It is obvious that effective audit (here and further we consider both internal and external audits) and corporate governance system should help the companies to timely notice all the wrongdoings and quickly respond to them in order to solve the problems before they are out of the control. Moreover, it must be mentioned that audit quality is assumed to have a considerable impact on the reliability of the financial statements and confidence of their users. However, to conduct a quality audit it is important to understand which factors in the company affect it and, hence, need to be improved. In order to understand this, the author is going to carry out a literature overview and reveal the parameters the improvement of which leads to better audit quality. Moreover, it will be interesting to understand whether there is any relationship between the audit quality and some characteristics of the board and board committees. Thereafter the company performance will also be analyzed to find out which aspects have relationship with the good or, on the contrary, poor audit quality and chosen board characteristics (based on the recommendations of the Code).

The **goal** of this research is to investigate the relationship between audit quality, board structure and the performance of the Russian public companies.

During the research we would like to address the following questions:

1. *What does corporate governance system consist of?* We would try to identify the main constituents of the corporate governance system in Russia and board characteristics for the future research.

2. *What does corporate audit consist of?* Here it is assumed to analyze the main part of mandatory external audit and study the practice of organizing audit committees in Russia with understanding of their roles and functions.

3. *Which factors affect the audit quality?* Answering this question will help to find out which parameters should be improved in the company in order to raise the audit quality.

4. *What is the relationship between audit quality and corporate governance system?* This research question will help us to understand whether there is any relation between internal and external systems.

5. *How audit quality itself relates to the company's performance?* We suppose that good audit quality should lead to higher firm value, cheaper cost of debt and some other benefits. To understand this some literature will be analyzed and research is assumed to be done on the sample of Russian public companies.

To reach this aim and answer the questions in will be necessary to meet the following **objectives**:

1. Conduct the literature review to ger understanding of the main components of the research: board of directors, board committees, audit and audit quality.
2. Analyze existing researches on the topic of study.
3. Formulate the hypotheses on the relationships between audit quality, board committees and company's performance.
4. Conduct the empirical study to check the hypotheses on Russian public companies.
5. Formulate the conclusions and give recommendations to the management and investors based on the results of the research.

It is expected that the results of this research will give more complete overview of the audit system and board structure in Russia and provide managers with recommendations on how to organize it in their companies. Is it better to apply for mandatory audit to companies from Big4? Is it necessary to organize audit, remuneration, strategy committees? If yes, should the directors there be independent? Will good audit quality have any relation to the company's performance? How to improve audit quality? All these and some other questions are expected to be answered in this Master Thesis.

The research will start with the analysis of the structure of corporate governance system in Russia. After that the descriptive analysis of different methods of auditing the company will be presented to get a clear picture of the analyzed topic. In this part we will try to show the main aspects of the internal corporate audit system (audit committee) and external audit. Moreover, we will try to understand the factors that mostly influence the audit quality in the companies. For this goal it will be mainly used literature review.

Finally, the main part of the research will be dedicated to explanatory study, because the focus of this work is on the establishing and explaining the relationships between the board structure, audit quality and company performance. Here the regression modeling will be used. Also, it will be important to generate conclusions with managerial implications so that this research is useful for future decision making about the company's audit and board structure.

For preparation of this Master Thesis the following information is needed. Firstly, previous studies on the related topics to specify the methodology, variables, models of the research and to formulate the hypotheses. This information can be obtained from the articles, books and documents prepared by such organizations as IAASB. Secondly, it is important to gather quantitative data. At

this part such sources as Thomson Reuters can be used. However, it is still important to check the data gathered, even though these sources are considered to be reliable. For that it may be necessary to check financial statements of the companies in the sample. Finally, to obtain data on audit and board characteristics it is also necessary to have access to annual reports of the firms and their audit reports.

It can be preliminarily said what results are expected after conducting the research. We assume to confirm all the hypotheses of the research, so that stakeholders of the company may use information on the board structure and audit quality to get better company results. Moreover, it is expected to define the factors that may affect the audit quality of the company, to compare internal and external audit, and to provide the management with recommendations on how to organize audit and corporate governance systems.

During the work on the Master Thesis some challenges are expected to be faced. One of the most considerable problems that may occur is difficulties with data gathering. Firstly, annual reports of the companies may not be available for the whole period of the research. Secondly, they may not contain complete information. Finally, some information may not be available in open sources. These problems may be solved by deleting the companies from the sample or by their replacement.

CHAPTER 1. THEORETICAL BACKGROUND

1.1. Corporate governance and the Board of directors

Board committees which are one of the main topics of this work are the part of the corporate governance system of large companies. Before moving to the board analysis and committees' description, it is necessary to understand what the corporate governance is.

Under the corporate governance we usually understand the system of relationship between the company and its stakeholders (Arsoy and Crowther, 2008), and also the set of mechanisms which help the investors to protect themselves from the discrimination from the managers and other internal stakeholders. The main aim of the corporate governance system is to reduce conflicts of interest between company managers and shareholders by separating control from ownership (Baydoun et al., 2012). Also, the goal of corporate governance is to create such controls that will make managers work for maximization of shareholders' wealth and, hence, maximizing the company's value. Among the mechanisms we can mention the inclusion of independent members in the board of directors, who are objective and are not influenced by third factors; the creation of various committees (such as an audit committee aimed at additional analysis of the company's statements and necessarily including independent directors); separation of the posts of the Chairman of the board of directors and CEO of the company for greater impartiality (Abbadi et al., 2016) – it is not applicable to the Russian market, because it is prohibited to assign the only person to the posts of Chairman of the board and CEO; board diversity – this one is about presence of both men and women on the board, however, again, we believe that is not applicable to the Russian companies due to specificity of Russian market.

It is also important to provide the definition given in the Principles of Corporate Governance by the Organization for Economic Cooperation and Development: corporate governance "includes a set of relations between the management of a company, its board, shareholders and other stakeholders, and also determines the structure within which the tasks of the company are outlined, and also means of implementing these tasks and monitoring the results of the company's activities".

So, the corporate governance is (Kalnitskaya, 2011):

- The system of management and control over the companies' activities;
- A structure that determines the distribution of rights and obligations between participants in corporate relations, i.e., board of directors, management and shareholders. General meeting of shareholders makes the main decisions, while the board of directors is responsible for the general administration of the company and control over management. Managers carry out day-to-day management of the company, implementing the strategy developed by the board of

directors and implementing decisions of the General meeting. The ultimate goal of this allocation is to increase the value of the company for shareholders in the long term;

- Rules and procedures for making decisions, a framework for formulating and achieving the company's goals and monitoring the results of its activities. The development of general "rules of the game" and the detailing of procedures allows stabilizing the management process and increases confidence in the company on the part of all participants in corporate relations and external stakeholders (government, potential investors, etc.).

It is also important to mention that corporate governance may be sometimes confused with management in general. This confusion goes from the English language, because governance and management seem to be quite common. The aim of management is business and operational management as a whole, and the goal of corporate governance is to establish the mechanisms that will ensure accountability and balance of interests of all participants in corporate relations. Corporate governance is at a higher level in the company's management system, above management, even includes management.

1.1.1. Corporate governance structure

The main parts of the corporate governance are:

- Shareholders and the General meeting,
- Board of directors and its committees,
- Company's management.

Moreover, one of the roles of corporate governance is organization of the internal control system.

Companies listed on the stock exchange are encouraged to create mechanisms responsible for ensuring internal control over the financial and economic activities of the company. Internal control system includes different policies, rules and procedures to provide the direction of further work, improve company's efficiency and effectiveness and strengthen policy commitment. Internal control system helps to ensure that company provides reliable financial reporting, and is compliant with laws and regulations. Internal control has a leading role in the providing assurance on the objectives and results of different operations in the company, its reporting and compliance (Everson et al., 2013)

Among them are, for example, the Audit Commission and the Audit Committee. The requirements for the audit commission are usually less stringent, and in most articles, the main emphasis is always on the audit committee (will be introduced later in the Chapter).

A shareholder (also called a stockholder) – is a person, company, or institution that owns at least one share of a company's stock. Shareholders get the final benefits of a business' success, i.e., in the form of the dividends that company pays to them, or in the form of increased share price.

The corporate governance system starts with shareholders (as one of the main stakeholders) of the company. Companies hold General meetings of shareholders (at least once a year), at which the most significant decisions are made. There are two most popular characteristics of the shareholders analyzed in different studies. First, whether the shares are owned by the state (state-owned companies) or the company is completely private. Secondly, does the organization have majority shareholders or does it have a dispersed ownership structure? In this paper, majority shareholders are understood to be persons who own a significant (for example, more than 5%) block of shares in the company.

It is important to note that in Russia (Lazareva et al., 2008), due to cultural and historical characteristics (some authors suggest that the main reason is the Soviet Union and further privatization), the ownership structure dominates with a predominant number of "internal" owners, and also with significant management oversight. In addition, a large share of ownership in especially large companies is held by the state (e.g., Gazprom, Sberbank).

Good corporate governance system should include active participation of shareholders in the control of the company through, for example, an arrangement of effective checks and balances among shareholders, the board and management (Crowther & Jatana, 2004).

However, some authors claim that participation of shareholders in corporate governance is "by representation" and is "theoretical" (Maseko, 2015), because the regulations now do not give a meaningful role to the General meeting. Major decisions are under control of Management and Board of directors.

So, another important part of the company's corporate governance system is the board of directors, which will be disclosed in more detail below.

According to the definition of the Big Legal Dictionary (Sukharev et al., 2003), the board of directors (supervisory board) is a collegial body that carries out general management over the activities of a joint-stock company, which decides all issues, except those referred by law to the exclusive competence of the General meeting of shareholders.

The board of directors is responsible for the strategic management of the company, so, it is not an operational management body. The responsibilities of the members of the supervisory board include solving the vital issues of business development and ensuring fair treatment of all shareholders

of the company (including minority shareholders), while taking into account the interests of other stakeholders (Filatov, 2016). Meetings of the board of directors are held on average 6-10 times a year.

The board of directors is the body representing the opinion of all shareholders of the company. However, it includes not only the owners of the companies. Often it includes representatives of management (for example, CEO), as well as external independent directors (people who are not connected neither with shareholders, nor with management, nor with other stakeholders of the company).

According to the version of the Law "On Joint Stock Companies" dated March 17, 2004, the activities of the board of directors are regulated by certain standards and there are certain requirements that must be met. For example, the law establishes the minimum size of the board: at least 5 members. But at the same time, it is recommended to include no more than 15 people in the Council, so as not to lose efficiency.

The board of directors plays a very important role in the corporate governance of the company. Many companies face an agency problem – a conflict between the owners of the company and the managers. Thus, the board should act as a mediator between the parties of the conflict (Kniga, 2006). But at the same time, the interests of shareholders may also not coincide with each other, and sometimes differ too much from the interests of the company. Therefore, A.S. Kniga adds that the main role of the board of directors is not only to protect the interests of shareholders, but also to "protect" the interests of the firm from decisions of the owners that could harm the company's activities.

1.1.2. Board committees

Boards of directors may organize internal committees so that to delegate them some of their duties. Committees can devote more time that is necessary to issues that are out of scope of the whole board of directors. Committees then provide regular reports to the board on the matters in their sphere.

According to the Russian Code of corporate governance, we have highlighted three board committees that are highly recommended to be organized in the company:

- Audit committee,
- Strategy committee,
- Remuneration and nomination committee.

Also, the Code includes recommendation on such committees as committee for the settlement of corporate conflicts, risk management committee, ethics committee. In this work we will consider three committees that are met more often in practice in Russian companies.

Audit committee

As it was previously mentioned, according to the Russian Code of corporate governance (CBR, 2014), the board of directors should create special committees for preliminary consideration of the most important issues of company's activities. Specifically, for example, audit committee is organized for questions associated with the control over the financial and economic activities. Also, company should organize internal audit system by creating a separate structural division (department of internal audit) or with the involvement of an independent external organization.

Audit committee is a consulting and advisory body of the board of directors, created with the purpose of preliminary consideration of the most significant issues within the competence of the board of directors, as well as to ensure the efficient functioning of the internal control system, risk management and compliance with regulatory requirements in the company (Ivanov, Stepashin, 2015).

According to the requirements of the corporate governance Code, introduced in 2014 in Russia, the audit committee should include *only* independent and / or non-executive (in the absence or insufficient number of independent members in the board) directors, the chairman must also be an independent director and the number of members in the committee must be at least *three* people.

The audit committee is a vital corporate governance mechanism that provides help and assistance to the board of directors, as it was mentioned earlier. The main aim is solving and facilitating the conflict of interest and reducing the agency costs. However, the presence of an audit committee in the company can mitigate the information gap between management and shareholders (Sharma et al., 2009).

The audit committee oversees management of the organization, internal and external auditors to protect the shareholders equity and interest. According to the Code of corporate governance, the main objectives of the audit committee are:

- Control over ensuring completeness, accuracy and reliability of the company's financial statements;
- Analysis of the significant aspects of the company's accounting policy;
- Participation in the consideration of the significant issues and judgments regarding the financial statements;
- Control over the reliability and efficiency of the risk management system, including an assessment of the effectiveness of risk management procedures and company's internal control, corporate governance practices and preparation of the suggestions for their improvement;

- Ensuring the independence and objectivity of the internal audit function;
- Consideration of the internal audit policy;
- Assessment of independence, objectivity and lack of conflict of interests of the company's external auditors, including the assessment of candidates for company's auditors, the development of proposals for the appointment, re-election and dismissal of external auditors of the company, payment for their services and the conditions for their involvement;
- Overseeing the external audit and assessing the quality of the audit and auditors' reports;
- Ensuring effective interaction between the internal audit department and the company's external auditors.

Audit committee is the main department responsible for internal audit and other divisions in the company (if any) are accountable to it. That is why we believe that considering only audit committee as internal audit will be reasonable for this work.

Strategy committee

The Strategic Planning Committee contributes to improving the efficiency of the company in the long term.

According to the recommendations of the Code of Corporate Governance, strategy (or strategic planning) committee plays the main role in defining the strategic goals of the company and performs the following functions:

- Determines the strategy and goals of the company, as well as performance indicators (including KPIs);
- Develops priority areas of activities;
- Develops recommendations on the dividend policy;
- Evaluates the efficiency of the company in the long-term period.

Moreover, the strategy committee develops recommendations to the board of directors on adjusting the existing development strategy of the company, based on the need to increase the efficiency of the company, taking into account the trends in the commodity and capital markets, the results of the company and its competitors, as well as other factors.

The Code does not provide specific guidance on the qualifications of the committee members. Of course, it is highly recommended to include more independent directors, however, the core idea is that committee member should have experience in the industry where the company operates and mainly be experts and specialist in strategy and finance.

This committee is still not as popular in Russia, according to different sources less than 50% of listed Russian companies organize strategy committees in the board, however, there is a positive trend.

Remuneration and nomination committee

The Remuneration (or remuneration and nomination) Committee helps to attract qualified specialists to the management of the company and create the necessary incentives for their successful work.

According to the Code of corporate governance, remuneration committee has the following functions:

- Determines the qualities required by members of the board of directors;
- Develops the company's policy in the field of remuneration to members of the board of directors and management;
- Develops criteria for assessing their performance;
- Conducts regular assessments of the performance of the CEO and members of the management board;
- Determines payments in favor of members of the board of directors and executives (including life and health insurance, non-state pension provision);
- Determines the qualities necessary for candidates for the positions of members of executive bodies and heads of the main structural divisions of the company;
- Conducts a preliminary assessment of the candidates for the General Director and members of the management board;
- Prepares proposals for the board of directors on the possibility of reappointment of the CEO and board members.

In order to ensure the due objectivity of the recommendations of the remuneration committee, it should include only independent directors. In cases where this is impossible for objective reasons, the committee should be headed by an independent director and consist only of non-executive directors.

1.2. Corporate audit

Audit is an unbiased inspection and examination of the financial statements of the companies, which are usually presented in the annual reports, by other organizations (audit companies – external audit) or by independent employees of the company itself (internal audit). The main aim of the audit

is to verify that financial reports present fair and accurate figures and clearly reflect the financial position of the organization.

So, one of the research questions that appears in this study – what corporate audit consists of. For the purpose of this work, we define two parts of corporate audit:

- Internal audit, which for the aims of this research is assumed to consist of audit committee or some internal audit departments in the firm.
- External audit. This part includes audit and audit services provided by specialized companies (for example, Big-4 companies: KPMG, PwC, Deloitte, and Ernst & Young).

To better understand the parts of the corporate audit system we would like to go deeper in the analysis of each of them, which will give us a better understanding and an answer to the one of the questions stated in the introduction part of this research.

1.2.1. Internal audit system

Corporate governance system incorporates both internal and external techniques. Although there are a lot of different researches that show the effect of each of that mechanisms, there is still a gap for internal audit system. There is no solid work that will analyze the internal audit system, its interrelation with the external audit, and finally its relationship with the company's performance.

The Institute of Internal Auditors (IIA) (2013) defines Internal Auditing as: "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. The internal audit activity helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes".

The work of internal audit is approved by the audit committee. So, we can see that audit committee is the governing body of internal audit system of the company. Moreover, the internal audit (presented by audit committee) is accountable to appoint external auditors.

So, further in this work under the internal audit we will understand the presence of audit committee in the company's board.

Some authors (Zaman et al., 2011) claim that there is a positive interrelation between the size of audit committee and the internal control system's quality, because larger size may lead to improved effectiveness and deeper specialization. Moreover, there is some evidence (Collier and Gregory, 1996; Carcello and Neal, 2000) that audit committee independence and good corporate governance as a whole may have negative relationship with the dismissal of fair auditors and audit fees. Here we see some interconnection between the internal and external audit.

It is also important to understand the practice of organization of audit committees in Russia in more details. Following the best international practice, corporate governance in Russia is moving away from formal existence and moving into a practical plane, involving independent directors and experts in its activities. In 2020 there was introduced a new law that obliged all the public companies to form audit committees by the 1 of January of 2021. However, in this research we cover previous periods (from 2014 to 2019), so it will be interesting to see if there is any relationship between company's performance, audit quality and presence of audit committee.

On the example of "Lenta" (Annual report for the year 2020) we can see that internal audit:

- "is designed to improve the Group's operations and safeguard the Group's assets and integrity;
- advises management on the extent to which systems of internal control and governance processes are appropriate and effective to manage business risk, safeguard the Group's resources and maintain compliance with the Group's policies and legal and regulatory requirements;
- advises on ways in which areas of risk can be addressed and provides objective assurance on risk and controls to senior management, the audit committee and the board".

Moreover in 2020 PwC and Institution of Internal Auditors released a collaborative research on the current trend of internal audit development. This research covers Russian financial organizations that we exclude from the further research, hence, it helps us to partly cover that gap. Based on the results of this research audit committee has been presented in 56% of the companies in sample, wherein in the insurance companies this figure is only 38%. Most of these companies have some other forms of the system of internal audit, however, it is still accountable to the board of directors or audit committee. Another research (Rakitin et al., 2020) was conducted based on 109 Russian public companies. Despite the recommendations of the Code of corporate governance, the results show that only 66% of audit committees are presented with independent directors. So, we can see that Russian companies still have omissions in the organization of internal audit systems.

1.2.2. External audit and audit quality

Another part of the corporate audit is external audit, which is mostly related to specialized audit firms. As it was mentioned earlier, there is a list of companies in Russia, for which external audit is obligatory, as it will be for all the companies from the sample. External auditors check the financial statements of the company to make sure that they are "true and fair", that they show the real financial position of the organization. Moreover, auditors should give the investors reasonable assurance about

the extent to which the financial statements are free of fraud and that they reflect honestly and fairly the financial position of the company (Al-Dalabih, 2018).

Audit is always performed in accordance with the IAS (International auditing standards). Audit is an examination, on a sample basis, of the figures and disclosures in the financial statements of a company. An audit includes evaluating the underlying estimates made by the company while preparing these financial statements and their presentation. An audit is not an audit of each and every transaction carried out by a company, so, of course, there is some level of accuracy.

External audit is considered as one of the most important processes contributing to the achievement of reliable accounting information, which produces accurate and reliable information through using control tools for different activities in the organization (Al-Dalabih, 2018). While audit is a key aspect of good corporate governance, it is not a substitute for good corporate governance and transparency. Based on the results of their work, auditors often make recommendations to the board of directors and company management on possible ways to improve corporate governance, internal control and reporting systems.

According to the Russian research by Novoselov (2009), there are two main factors associated with the external, independent audit:

1. Conducting an audit will invariably be associated with "clearing debris" in the legal and financial structures of the company, without which it is impossible to conduct an audit and manage the company's value.
2. The influence of external audit forces financial services to align the principles of drawing up management reporting with the principles of IFRS, which allows "informational support" of the new financial strategy of the company.

Thus, we can talk about the special role of external audit in Russian conditions as one of the tools for restructuring companies at the current stage of the life cycle of domestic companies.

Audit is inextricably linked to such term as audit quality. Of course, it is important to provide audit in the company, but will it be any sense in it, if the quality of audit is poor? However, if the audit quality is assumed to be good, investors are anticipated to get more valid and quality data so that investors can be more precise in making business decisions (Wijaya, 2020).

Even though audit quality has been analyzed for many years, there is still no one exact definition and there remains little consensus about that. To start with, we need to understand that in this study we analyze exactly audit quality, not the accounting quality. Accounting quality is the

quality of the financial reporting provided by the company (Gros, Worret, 2014). And audit quality measures the quality of the results provided by the external auditor.

International Auditing and Assurance Standards Board (IAASB, 2014) prepared a special framework for Audit Quality, which is expected to be widely used in this Master Thesis. Of course, there are also national standards and laws regulating the audit system in Russia, however, the framework does not contradict them but complements and gives an overview of audit quality and the key elements that it consists of.

Firstly, in this framework the authors of IAASB provide the explanation why it is difficult to give the exact definition of the "audit quality" and what characteristics traditionally refer to it. For example, there are some qualities that good audit must possess such as integrity, objectivity, professional skepticism, perseverance and robustness.

However, authors claim that the existence, or lack, of material misstatements in the accountings of the company is only one of the indexes of audit quality. Moreover, audits vary from company to company and what is "good" for one company is not appropriate and may be even judgmental for another one. Finally, there is limited transparency about the audit performed and it is difficult to get relevant data simply from the analysis of the audit report.

Moreover, the definition of the audit quality may vary from the point of "stakeholders": the company, auditors, the users of the financial statements, audit firm and regulators (Knechel et al., 2012). For example, as it was mentioned earlier, users of the financial statements may say that audit quality is high in case of absence of material misstatements. Auditors who conduct the audit may claim that audit quality is high if all the working papers and tasks were completed as required by the firm's audit methodology. From the point of audit firm as a whole audit can be evaluated on the basis of accordance with all the laws and regulations, so that in case of any challenges it was possible to defend the position of audit firm. Speaking about regulators, the position is close to the audit firm – high-quality audit should be in compliance with laws and standards.

We will analyze the relationship between audit quality and company's performance further in this Chapter. However, it is not enough to understand what effect audit quality has on the company's performance. To reach the best position and to get the most advantage, investors and company's management also need to understand what factors may affect audit quality. This will help them to choose the best auditor and to make the audit the most beneficial. In this study we will not assess the influencing factors due to the lack of data. However, deep literature review has been conducted and several factors have been distinguished.

One of the articles (Knechel et al., 2014) analyzes the units of audit that may affect audit quality. The authors divide them in inputs, process, outcomes, and context. They define each category and each item that belongs to that category. First of all, inputs that are mostly reflected in the personal characteristics of the audit team. Secondly, audit quality may be influenced by the characteristics of audit process itself (the preparation of working papers and their review, etc.). The third group of factors is outcomes and their characteristics. And finally, we will define the items included in the context such as audit tenure, audit fees, etc.

We will present all this factors in this Chapter. First, as in the article, inputs' items and nature of the incentives in audit process. As it was mentioned earlier, inputs are mostly connected with some personal characteristics of the audit team starting with auditors' personal motivation and incentives to complete the work. Among them there can be the risk of client loss (Blay, 2005), fee pressure (Houston, 1999), client retention incentives (Chang and Hwang, 2003), economic benefits contingent on specific actions (e.g., Schatzberg and Sevcik 1994; Beeler and Hunton 2002). Another input to be mentioned is professional skepticism (Chen et al., 2009). Auditors with higher level of professional skepticism are able to notice some fraud in the financial statements, to perform additional procedures and explain the results of that procedures reasonably to the client. Of course, professional skepticism goes together with auditor knowledge and expertise. That may include industry-specific knowledge, knowledge and experience of work with the exact client, knowledge of the laws, standards and audit documentation. Finally, authors name one more input – within-firm pressures such as evaluation process in the audit firm, behavior of supervisors and managers of the project, and also some time-deadline pressures that have an adverse impact on the audit quality. As summary of inputs, the audit quality may have positive relationship with the development of personal audit team characteristics.

Audit process has a lot of steps and varies across engagements. Speaking about the audit quality and its relationship with the audit process, authors of the research have defined several factors. The first one is also a bit related to the inputs discussed earlier – judgment in the audit process that may cause some systematic errors. Another factor is connected with audit production process: client complexity, planned timing, the audit team that was engaged to the project, etc. Here we should mention that audit quality positively relates to the ability of auditors to adjust their production process in case of different risks, timing, other factors of changing environment. Another factor that is important and has already been mentioned several times – risk assessment. Risks in audit determine the nature, volume and timing of the procedures that should take place. Next step in audit process are analytical procedures themselves. Of course, audit quality here may be influenced by errors and

mistakes made by auditors, however, what is more, the authors define such aspects as incorrect or fraudulent information provided by the client (Bierstaker et al., 1999), attention to source credibility (Anderson et al., 1994; Hirst, 1994), lack of criticism when the results are consistent with auditor's expectations (Earley, 2002). One more factor in audit process that can have negative effect on the audit quality are auditor-client negotiations (Antle and Nalebuff, 1991). Authors define the following items: audit tenure, negotiation strategies, timing, client characteristics and others. Finally, authors name review and quality controls which are aimed at identification of errors and, hence, improvement of audit quality.

The third category of factors that may have impact on audit quality – outcomes. We believe that higher audit quality (in case of fair audit) is related positively to the reports without negative outcomes (such as restatements, qualified auditor's reports, any litigations and claims). In this study is important the factor that authors mention – relationship between audit quality and overall quality of financial reporting or earnings quality (Behn et al., 2008). Many researchers have found negative relation between the level of discretionary accruals and proxies for audit quality, for example, Big-4 company as an auditor (Kim et al., 2003).

Finally, the authors of the research define the contextual factors that may have influence on the audit quality. Between them are audit partner compensation (some studies claim the relation is positive, however, there is an opposite opinion claiming that partners do not want to lose profitable clients and hence issue a going concern opinion); abnormal audit fees (negative relation with audit quality); non-audit fees (threatens audit quality, however, controversial); audit tenure; market perception of audit quality. Mostly, the findings about the contextual factors are mixed and controversial.

Another article also summarizes different factors with potential influence on audit quality from the point of auditor companies (Hosseinniakani et al, 2014) comparing the results of different studies. Such a work gives the most complete overview of the factors affecting the audit quality. This may be used in further researches and empirical studies as a base for choosing the model variables. The authors divided the explored factors into two categories: key influencing factors (auditing process attributes) and the auditor specifications. They assume that such factors can directly or indirectly influence the auditor opinion, therefore, the audit quality.

The analysis starts with the influencing factors. In the research there are highlighted 6 variables. Firstly, the size of the auditor company. It is expected that larger the auditor firm, the higher reputation it has. The higher reputation, the higher incentives to issue clean and accurate audit report,

because inaccurate audit reports can lead to decline the reputation. Larger auditors can make audit fees higher, attract more clients, and, hence, have more incentives to provide better audit expertise. One interesting factor related to auditor size is audit firm tenure. Larger the auditor is more regular customers it has. Secondly, industry expertise. The authors mean that auditors should have specialization or some deep knowledge in the industry that the audited company operates in, so that the auditor has higher level of "technical competence". Thirdly, audit tenure. Here some key points should be mentioned. The longer tenure leads to the increase of auditor client knowledge. On the contrary, it is assumed that if the audit is done by the same team for too long, auditor's professional care decreases and leads to poorer audit quality. At the same time, referring to the previous factor, auditor expertise should increase, but auditor's independence may decrease because of too close relationships with the client. The fourth factor is audit fee. Similar to the approach used earlier, it can be mentioned that higher audit fees are taken by auditor firms that are large, have good reputation, and the employees have deep knowledge of the industries they work in. Hence, higher audit fees are expected to have a positive impact on audit quality. The fifth element is non-audit services provided by auditor companies. This factor was not analyzed for the aim of this Master Thesis. Finally, auditor reputation. As it was mentioned earlier, due to more credibility of larger auditors, audit firms with great reputation are considered to be more accurate.

Summary of the factors influencing audit quality based on the review of the different studies is presented in the picture 1.

Factor	Observed Relationship		
	Positive	**Negative**	**No-effect**
Size	(Colbert & Murray, 1995; DeAngelo, 1981; Francis, 2004; O'Keefe & Westort, 1992)	Not Observed	(Bauwhede & Willekens, 2004; Jackson et al., 2008; Jeong & Rho, 2004; Larn & Chang, 1994)
Industry Expertise	(Francis, 2004; Lowensohn et al., 2007)	Not Observed	Not Observed
Auditor Tenure	(Chi et al., 2009)z	(Carey & Simnett, 2006; C.-Y. Chen et al., 2008; Choi & Doogar, 2005; F. a. Gul et al., 2009; F. A. Gul et al., 2007; Johnson et al., 2002)	Not Observed
Audit Fee	(Eshleman & Guo, 2014)	Not Observed	(Lindberg, 2001)
Non-Audit Service	(Houghton & Jubb, 1999)	Not Observed	(Francis, 2004)
Auditor Reputation	(Teoh & Wong, 1993)	Not Observed	Not Observed

Picture 1. *Summary of influencing factors. [Source: Hosseinniakani et al, 2014]*

Three more factors were analyzed as a part of second group – auditors' specifications. They are independence, liability (accountability) and competence. Auditor's independence is the capacity of auditor to act, in mind and in appearance, objectively without influences. Auditor's liability to

investors, clients and market can reduce the litigation risks and costs by reducing audit failures, and thereby, increasing audit quality. Professional competence plays an important role in the audit process. Particularly, it may contain a considerable impact on the auditor's professional judgment as well as on quality.

Summary of the observed by the authors relationship between the auditor specifications and other factors and its impact on the audit quality is presented in the picture 2.

Auditors Specifications	Relationships with Other Factors	Observed Effect on the Audit Quality	
		Positive	Negative
Independence	(Longe) Audit tenuer	Not Observed	(Carey & Simnett, 2006) (DeFond et al., 2002; Frankel et al., 2002; Thornton & Shaub, 2014)
	(Higher) Non-audit fee	Not Observed	
Liability	(Higher) Reputation	(Tomczyk, 1996)	Not Observed
	(Loss of) Reputation	Not Observed	(DeFond et al., 2002)
	(The larger audit firm the higher liability) Size	(DeFond, 2012; Ding & Jia, 2012; Kaplan & Williams, 2012; Lennox & Li, 2012)	Not Observed
Competence	Size	(Hussein & Hanefah, 2013)	Not Observed
	Industry Expertise	(Arrunada, 2000)	Not Observed

Picture 2. *Summary of the auditor specification. [Source: Hosseinniakani et al, 2014]*

Although further in this Master Thesis there will be no any empirical study conducted on the factors affecting the audit quality, such a literature analysis may be also helpful for the company's management and board while choosing the auditor for the company. They should engage companies that fit the best into the description provided above. In this research we suppose that Big-4 companies are the best alternative for the companies, and the quality of the audit provided by them is higher than other firms in the industry.

1.3. Literature review and hypotheses statement

1.3.1. Existing studies on the audit quality, board committees and company's performance

Despite the fact that there are a lot of different studies separately on audit quality, board structure (including board committees) and their interrelation with the company's financial performance, there is still no research that will cover all these items together. Moreover, mostly there are foreign studies that cannot be fully applied to the Russian market due to specificities. That is why this research may be relevant and helpful for different stakeholders of Russian public companies.

However, it is important to present some studies on the analyzed topic. Most of the research show the interrelation between either board structure and audit quality, or board structure and firm performance, or audit quality and firm performance. Moreover, they are concentrated in the emerging markets.

Different researches show controversial results. Some of them revealed positive relationship between audit quality and the financial performance of the companies (Fooladi, Shukor, 2012; Sattar et al., 2020), but some authors claim there is no significant relation. Other studies that were analyzed found no significant relationship between board characteristics and ROA as a metrics of the financial performance (Fooladi & Shukor, 2012). The third block of studies revealed some relationship between the board characteristic (such as board independence, CEO duality and audit committees) with audit quality (Soliman & Abdel Salam, 2013; Suryanto et al., 2017)

One study that is based on the Russian public companies (Berezinets et al., 2013) has been conducted before the introduction of the new Code of corporate governance, hence, some of the results may be further compared with the results of this Master Thesis. It concentrates on the board structure and financial performance. As the measurement of companies' performance, the authors use the Tobin Q values. The results show that there is positive relationship between the size of the board and Tobin Q ratio (the most effective are the boards with a small and large number of directors). However, there were not found any relationship with the board independence. The authors explain that with the fact that in Russia "independence" may be still quite formal and independent directors may be invited only for improving company's reputation.

Below there will be provided some more articles for the each of hypotheses.

1.3.2. Audit quality

Different studies suggest different variables as an indicator of audit quality. Gros and Worret (2014) analyze different proxies for the audit quality. The authors of the research assume that audit quality equals the accounting quality, so can be measured by the earnings management models (discretionary accruals or real-earnings management, REM, models). The authors suggest different models: Jones (1991), modified Jones (Dechow et al., 1995), forward-looking Jones (Dechow et al., 2003), performance-adjusted Jones (Kothari et al., 2005), Dechow/Dichev (Dechow and Dichev, 2002), some REM models. The study shows that different proxies give different results.

In this Master Thesis as an indicator of audit quality we are going to use the binary variable – Big-4 auditor. Such a variable is often used in different research (e.g.: Jiraporn et al., 2020). However, to prove the reasonableness of this proxy, we also analyzed the relationship between Big-4 auditor and quality of financial reporting measured as accruals quality. We have taken the basic Jones model (1991) for calculations of discretionary accruals. More details will be provided in the Chapter 2.

Hence, the first hypothesis of the research aims to test whether there is relationship between Big-4 auditor (audit quality metrics) and accounting quality.

H1. Companies audited by Big-4 auditors have higher accounting quality.

1.3.3. Audit quality and board structure

Speaking about the interaction between internal and external auditors, in the research by Al-Najjar (2018) it was found that there is some evidence that good governance control will result in better audit quality. Also, there are some researches with competing views on whether internal governance system complements or substitutes for the external auditing.

For example, Abdeljawad et al. (2020) aim to find out how the presence of an audit committee is associated with other corporate governance mechanisms, i.e., board structure, ownership structure and quality of external audit, and understand whether audit committee complements or substitutes other governance mechanisms in Palestinian companies.

Based on the investigation, the results have indicated that board independence, the distinction between the chairman and chief executive officer function, ownership concentration and audit quality enhance the chance of audit committee formation, implying complementary effect. On the other hand, board size and board ownership serve as a substitute to audit committee formation. It has also been found that investment opportunities act as an effective moderating factor that strengthens the relationship between audit quality and the formation of the audit committee.

The study provides valuable insight into the interaction between multiple corporate governance mechanisms within the economy of Palestine where the external uncertainty is high and investment opportunities are constrained by the decisions of the occupying authority.

Another research (Qawqzeh et al., 2021) analyzes the relationship between audit quality and the board characteristics for companies from Jourdan. As an indicator of audit quality authors use "audit fees". In Russia companies do not have a liability to disclose the sum of audit fees paid, so in this study we have a limitation while choosing indicators of audit quality. However, we still can use the results of previous studies for the hypotheses formulation. So, authors have found that board size, board independence have a positive effect on audit fees, while such an indicator as board expertise has a negative impact. In this study we would use audit quality as an independent variable, and board characteristics, on the contrary, as dependent variables, so that to see the opposite interrelation which has been seldom analyzed in the articles. However, the data may be used in future studies to analyze the relationship when the audit quality will be a dependent variable.

So, hypothesis 2 of the research helps us to investigate whether there is relationship between audit quality measured as Big-4 auditor and board independence.

H2. *Companies that are audited by Big-4 audit firms have more independent directors on the board.*

As it was mentioned earlier, Russian Code of corporate governance also recommends organization of three board committees. In this research we would like to assess how many of public companies in the sample have organized all three committees suggested by the code and analyze whether there is relationship with the audit quality. Hence, the hypothesis 3 was formulated in the following way:

H3. *Companies that are audited by Big-4 audit firms are more likely to have all three board committees recommended by the Code.*

Some positive relation between the characteristics of the audit committee and audit quality found Kusnadi et al. (2016) in Singapore. As a dependent variable of the research authors use accruals quality (the Dechow and Dichev model), however, there is no worldwide accepted measure of the accruals. The results of the research show positive interrelation between audit quality and higher expertise of the member of board committees (especially audit committee) in accounting, finance, supervisory. However, no significant relationship was found between the independence of audit committee and audit quality. It may be explained by the fact that audit committees mostly consist of independent directors.

So, hypothesis 4 of the research checks the relationship between the audit quality and each of three board committees: audit committee, strategy committee and remuneration committee.

H4. *Companies that are audited by Big-4 audit firms have a greater share of independent members on board committees.*

1.3.4. Company's performance

As indicators of company's financial performance in this study we are going to use three proxies, based on the studies analyzed. Although both accounting and market-based measures may be appropriate to measure company's performance, we decided to stop on the accounting-based financial measures, because market-based ones may rely on the expectations of the investors about future performance and can be influenced by changes of the market.

The first proxy does not directly measure companies' performance. We have chosen the cost of debt to understand if audit quality and corporate governance have relationship with not only basic ROA and ROE measures, but also risks understood by debtholders, so that to get the most covering.

Bacha (2019) uses OLS regression model to analyze the relationship between cost of debt, board characteristic (such as board size, board independence, presence of audit committee and its independence), ownership structure (proportion of the capital belonging to the managers, presence of institutional investors), and audit quality (measured by auditor size: Big-4 or Non-Big-4). The analysis is based on Tunisian listed companies over the period 2006-2016. The results show that there is negative relation between the costs of debt and the board size, the presence of block shareholder and audit quality. Speaking about audit quality, debtholders assume that information provided by Big-4 companies is more reliable. Positive relation was revealed between cost of debt and the presence of institutional shareholders. However, in this study we will not analyze the ownership structure of Russian companies.

So, the hypothesis 5 checks the relationship between the cost of debt, audit quality measured as Big-4 auditor and some metrics of the board structure.

H5. *Companies that are audited by Big-4 and have recommended board structure are more likely to have lower cost of debt.*

"Recommended board structure" relates to the recommendations of the Russian Code of corporate governance. Hence, appropriate size, more independent directors, all three committees are expected to be met in the Company. We tried to distinguished the most important features of the board (based on the Russian Code of corporate governance).

The second proxy is the return on assets (ROA) used in the most of the research analyzing audit quality, corporate governance and firm performance (Micheal, 2015; Monametsi, Agasha, 2020; Koji et al., 2020; Sattar et al., 2020). Some authors revealed negative but non-significant relation between audit quality and firm performance. Another research also found no effect on firm performance from the side of board structure (neither the size, nor the independence). However, other studies (Ado et al., 2020) display positive relationship between ROA and size of audit company (measured as Big-4 or Non-Big-4). The third proxy is the return on equity (ROE) also may be used as indicator of firm performance (Matoke, Omwenga, 2016; Elewa, Haddad, 2019). The results are mostly similar to the ROA proxy.

Finally, the hypothesis 6 checks the relationship between the financial performance of Russian public companies (measured with ROA and ROE), audit quality measured as Big-4 auditor and some metrics of the board structure.

H6. *Companies that are audited by Big-4 and have recommended board structure are more likely to have higher financial performance.*

CHAPTER 2. EMPIRICAL STUDY

The aim of this research as it was mentioned earlier is to investigate the relationship between audit quality, board structure and the performance of the Russian public companies. So, such a goal includes understanding of associations and relations between different variables, which will help to make conclusions according the interrelations between audit quality and board structure with company's performance.

To match the goal of the research the following type of research design is expected to be used in the study – Explanatory study, because we are going to analyze the causal relationships between the audit quality, board structure and company performance. Also, it will be important to generate conclusions with managerial implications so that this research is useful for future decision making about the company's audit and board structure.

Based on some limitations of the research, the methods of gathering the data are collecting the data from open sources like annual reports of the companies and their financial statements, and closed data bases as Eikon (Thomson Reuters) and Russian database SKRIN. Based on the results of literature review, also surveys were mentioned as a popular method of gathering data in the related studies, however, for the goal of this research it was decided not to include survey because of difficulties in getting contacts of the auditor managers and partners and financial officers of the companies. That is why some parts of the research have been omitted and include only literature analysis. Financial statements are here a vital source of information. From the reports of the company, it is possible to get data for control variables and other qualitative and quantitative factors. Moreover, annual reports often contain data about the corporate governance system of the company.

The research strategy is longitudinal study: analysis of different factors on the same sample of objects during the exact period: 6 years, from 2014 to 2019. Such a period is taken because the author would like to get the most relevant data to the current date from the date of the introduction of the new Russian Code of corporate governance (2014). Due to the COVID-19 pandemic it was decided not to include the data on 2020 in the sample, because the results of this year do not reflect correctly the trends in companies' development. Moreover, not all the companies in the sample have already published audited Financial Statements for the year ended 31.12.2020. Some of the data needed the results of the previous year, so figures on 2013 were also taken into account.

One of the advantages of strategy with longitudinal study is a possibility to predict future outcomes based on the historic data. However, it requires data on all the variables for all the time periods, otherwise, the results will not be so accurate. Hence, it is important to prepare the sample so
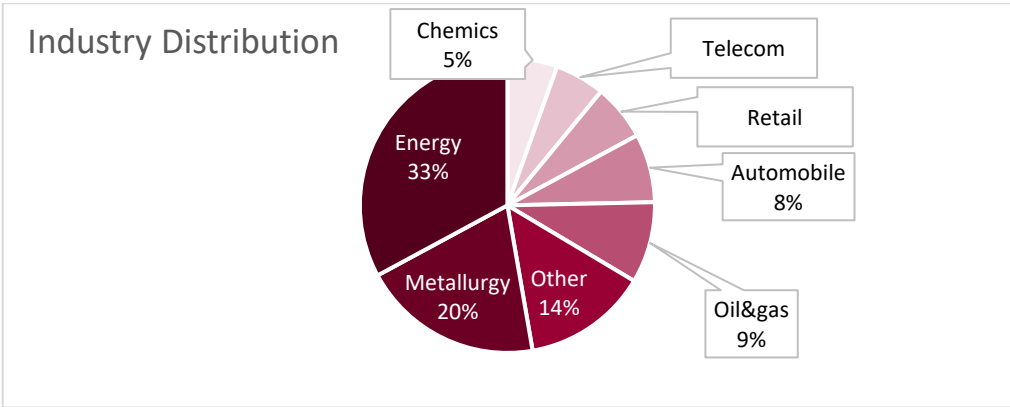
that it contains the companies that meet at least the following criteria: have financial statements for the whole period of study and provide annual reports with the information on the corporate governance system. Further in the work the criteria are specified.

2.1. Sampling

The empirical study was based on the population of the Russian listed companies from 2014 to 2019. The sampling technique was carried out using the purposive sampling method with the following criteria:

1) Russian non-financial listed companies;
2) Possessing audited financial statements presented in the Russian rubles for the years 2014-2019;
3) Possessing complete financial data which is suitable for the researcher's needs.

Financial data on the companies was obtained from Thomson Reuters Eikon. Financial measures are expressed in thousands of Russian rubles. The final sample consists of 146 Russian companies from different industries (the distribution can be seen in the Picture 3[1], list of companies is presented in the Appendix 1) excluding companies from the financial sector, because they may significantly differ from the production companies (moreover, some of the companies that are now listed were excluded from the initial sample, because they do not have all the annual reports for periods 2014-2019 in public or some of them were outliers). Data on the corporate governance (board size, board independence, presence of audit committee, strategy committee and remuneration committee, their size and independence) and auditor of the company (Big-4 or non-Big-4) were collected from the firms' annual reports. To do that each report was downloaded and visited manually. The final dataset consists of 876 observations for six years period.

Industry Distribution

- Chemics 5%
- Telecom
- Retail
- Automobile 8%
- Oil&gas 9%
- Other 14%
- Metallurgy 20%
- Energy 33%

Picture 3.   *Distribution of companies between industries*

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[1] Other industries include: agriculture, airline, pharmaceutical, real estate and construction, transport, IT.

2.2. Econometric analysis

To reach the goal of the research and test the hypothesis it was necessary to choose the research models. The criteria for selection were:

— Possibility to find the data in the open sources,

— Applicability to Russian realities,

— Model performance in other countries,

— Applicability to the research hypothesis.

To test most of the hypotheses of the research (except for the *H3*) the basic method of ordinary least square (OLS) regression model was chosen.

The first model was chosen to test hypothesis 1:

$$|DA_{it}| = \beta_0 + \beta_1 Big4_{it} + \beta_2 Control\_var_{it} + \varepsilon_{it}$$

For the first hypothesis we would like to check whether there is relationship between the accounting quality and variable Big-4, so the dependent variable will represent the discretionary accruals calculated based on the Jones model for every company i in the year t in the sample. At the same time the independent variable will be the proxy of audit quality in this research – Big-4 (more details about the variables can be found in the table 1). Vector of control variables represents additional characteristics of the company: size, sales growth, financial leverage of the companies, ROA as a metrics of company performance. β_0 is an unknown scalar quantity, β_1 and β_2 are vectors of the coefficients in the regression, ε_{it} is a random error.

The second model helps to test hypotheses 2 and 4:

$$Y_{it} = \beta_0 + \beta_1 Big\text{-}4_{it} + \beta_2 Control\_var_{it} + \varepsilon_{it}$$

For the second model dependent variables are presented with the board structure proxies that were assumed to be the most important based on the analysis of the Code of corporate governance: board independence, independence of each of the committees of the board (audit, strategy and remuneration). At the same time the independent variable is again audit quality. Vector of control variables also represents additional characteristics of the company: size, financial leverage of the companies, ROA as a metrics of company performance. β_0 is an unknown scalar quantity, β_1 and β_2 are vectors of the coefficients in the regression, ε_{it} is a random error.

The third model helps to test hypotheses 5 and 6:

$$Y_{it} = \beta_0 + \beta_1 Indep\_var_{it} + \beta_2 Control\_var_{it} + \varepsilon_{it}$$

For the third hypotheses vector of dependent variables is measured by company performance proxies (ROA, ROE and COD – cost of debt). Independent variables present auditor of the company

(Big-4 or non-Big-4) and the characteristics of the board structure: board size, board independence, presence of all three committees. Vector of control variables: size, financial leverage of the companies. β_0 is an unknown scalar quantity, β_1 and β_2 are vectors of the coefficients in the regression, ε_{it} is a random error.

To conduct the presented analysis, we will base our research on the panel data. The following types of regression models may be applied (Seddighi, 2000):

- Pooled Regression Model, where the coefficients are constant for both intercepts and slopes (OLS);
- Fixed Effects (FE) Regression Model, where the individual effects across observations are taken into account by the difference between constant and the intercept;
- Random Effect (RE) Regression Model, where the individual effects are randomly distributed across observations.

To choose the best model for data description we need to sequentially carry out pairwise comparison of the evaluated models. First, we need to compare the pooled regression model with fixed effects one with the Vald test (F-test). This test checks the null hypothesis whether all the individual effects are equal to zero, so the observations of the research do not possess any determined effects. If we fail to reject this hypothesis, it is more preferable to use pooled regression model. However, pooled regression should also be compared to random effects model with the Breusch-Pagan test for the random individual effects. Again, if the null hypothesis is not rejected, it is more preferable to use pooled regression model. In case if both tests show that pooled regression model cannot be applied, we can use Hausman test to make the choice between FE and RE regression models. The null hypothesis shows that RE model is preferable and is accepted in case there is no correlation between the random effects and regressors. The choice will be made further in the Chapter.

In one of the Hypothesis (*H3*) the dependent variable is binary – the presence of the three main committees (audit, strategy and remuneration). To test this hypothesis, we can use logit/probit regression models. Logit-model is used if there is logistic distribution, while probit-model may be applied in case of standard normal distribution. In practice there is no significant difference which model should be used. Moreover, the coefficients of logit- and probit- regression models are connected with the following ratio:

$$\beta_{logit} = 1.6\,\beta_{probit}$$

If the typical distribution function of the probability law is denoted by F(), the regression model to test hypothesis 3 will look the following way:

$$All3_{it} = F(\beta_0 + \beta_1 Big4_{it} + \beta_2 Control\_var_{it}), \text{ where}$$

All3 represents the presence of all three committees on the board, independent variable Big4 representing the audit quality in the research. Control variables are still the same: size, financial leverage of the companies, ROA as a metrics of company performance. β_0 is an unknown scalar quantity, β_1 and β_2 are vectors of the coefficients in the regression.

Probit- and logit- models are interpreted in a different way than linear-regression models. While, OLS coefficients tell us how on average can change the dependent variable is the independent one adds 1 (or takes the value of 1 for binary variables), the logit-/probit- models show us how the probability of dependent variable taking 1 will change depending on the independent variable change. When the independent variable itself is also a dummy variable, the "small change" is impossible, so we can understand, how the probability of dependent variable taking 1 will change if the independent variable takes 1.

As the literature does not suggest which method (logit- or probit-) is better, in this study we will use logit-model.

2.3. Description of variables

In table 1 you can see the variables used in the regression models and/or descriptive statistics of the research.

Table 1.   Definition of variables

Type	Symbol	Name	Calculation
Dependent	DA	Discretionary Accruals	Remainders in the Jones (1991) model showing the accounting quality of the Financial statements
Dependent	COD	Cost of debt	Interest / Average debt
Dependent/Control	ROA	Return on Assets	Net income / Total assets
Dependent	ROE	Return on Equity	Net income / Equity
Independent	BrdSize	Board Size	Natural logarithm of the number of directors on the board
Both	BrdInd	Board Independence	The share of independent directors on the board
Both	All3	Presence of all 3 Committees	Dummy variable that indicates the presence of all three committees (audit, strategy, remuneration). 1 – all 3, 0 – otherwise.
–	AudCom	Audit Committee	Dummy variable that indicates the presence of audit committee (1 if yes, 0 – otherwise).
Both	AudInd	AudCom Independence	The share of independent directors in the audit committee.

Table 1 (continuation)

Type	Symbol	Name	Calculation
–	RemCom	Remuneration Committee	Dummy variable that indicates the presence of remuneration committee (1 if yes, 0 – otherwise).
Both	RemInd	RemCom Independence	The share of independent directors in the remuneration committee.
–	StrCom	Strategy Committee	Dummy variable that indicates the presence of strategy committee (1 if yes, 0 – otherwise).
Both	StrInd	StrCom Independence	The share of independent directors in the strategy committee.
Independent	Big-4	Audit Quality	Dummy variable that indicates whether the company was audited by Big-4 (1) or non-Big-4 (0).
Control	Size	Size of the Company	Natural logarithm of total assets of the company.
Control	Lev	Financial Leverage	Debt / Equity
Control	SG	Sales Growth	$(Sales_t – Sales_{t-1})/ Sales_{t-1}$

Variables AudCom, RemCom and StrCom were not directly used in the models. They are presented in the descriptive statistics of the research for better understanding of the board structure of the companies in the sample. Moreover, the variable All3 was calculated based on these three variables.

Moreover, in the table 1 you can see the variable DA, which is discretionary accruals. To calculate DA, we found the remainders in the Jones regressions model (Jones, 1991):

$$TA_{it}/A_{it-1} = \beta_{1it}[1/A_{it-1}] + \beta_{2it}[\Delta REV_{it}/A_{it-1}] + \beta_{3it}[PPE_{it}/A_{it-1}] + \varepsilon_{it},$$

where TA_{it} – total accruals in the company i for period t; A_{it-1} – total assets in the company i for period t-1; ΔREV_{it} – change in revenue in the company i for period t; PPE_{it} – property, plant and equipment in the company i for period t; i – number of the company; t – period (from 2014 to 2019); β_{1i}, β_{2i}, β_{3i} – parameters of the model; ε – random component. The indicator of total accruals for this model was calculated using the formula:

$$TA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it},$$

where ΔCA_{it} – change in current assets in the company i for period t; ΔCL_{it} – change in current liabilities in the company i for period t; $\Delta Cash_{it}$ – change in cash in the company i for period t.

2.4. Descriptive statistics

Before the regression model construction, the descriptive statistics was obtained to understand the sample. It was decided to present the descriptive statistics (including mean, standard deviation, minimum and maximum values) for audit quality and board characteristics, firm's performance metrics and control variables separately. First, the descriptive statistics for the board and audit quality characteristics is presented in the table 2.

Table 2. Descriptive statistics of the board and audit quality characteristics

Variable	Mean	Std. Dev.	Minimum	Maximum
Big-4	0.5057	0.5003	0	1
BrdSize	9.0959	2.3664	5	18
BrdInd	0.2227	0.1986	0	0.8571
All3	0.3642	0.4815	0	1
AudCom	0.6256	0.4843	0	1
AudInd	0.3557	0.4061	0	1
RemCom	0.5434	0.4984	0	1
RemInd	0.2703	0.3691	0	1
StrCom	0.3778	0.4851	0	1
StrInd	0.1039	0.2048	0	1

We see that the half of the companies in the sample (51%) are audited by the Big-4 companies. This corresponds to our expectations. In the sample there are companies from all the levels of the MOEX requirements (Moscow stock exchange). Most of the first-level companies prefer a Big-4 auditor because the results provided by them are assumed to be of higher quality. Speaking about other variables, it is also important to mention that to get to the listing of the first and second level companies need to fulfill the special requirements. For example, for the first level there should be at least 3 independent directors in the company, organized audit and remuneration committees. And we can see that 63% of companies in the sample have an audit committee on the board, 54% of the companies have remuneration committee, while the strategy committee, which is not strictly required, is presented only in 38% of the companies. It should be mentioned, that in 2018-2019 and later the results have improved, because more and more companies now pay attention to the requirements of both MOEX and Code of corporate governance. At the same time, all three committees are presented only in 36% of the companies (most often, if company has the strategy committee it obviously has audit and remuneration committees).

Boards of the companies are presented by the size from 5 to 18, which slightly difference from the recommendation of the Code of corporate governance. However, only one company in the sample had more than 15 directors and only in the first three years after the introduction of the Code. The

average size of the board in the sample is 9 directors, which has not changed significantly comparing to other researches (PricewaterhouseCoopers, 2012; Berezinets et al., 2013). It is assumed to be enough to take the correct decisions and present diversity of opinions. Unfortunately, board independence is very low in Russia. On average, only 22% of the board directors in the sample are independent. It does not even correspond to the recommendations of the Code and requirements of the MOEX – not less than one third of the board should be independent. But if to calculate average figure only on the companies where independent directors are presented in the board, we will reach exactly 33%.

Moreover, some years later after the introduction of the code the situation became better and after the new requirements in 2020, we expect to get more independent directors and more committees. The independence of committees is, of course, correlated with the independence of the board and the presence of the committee in the company. On average, 36% of audit committee members are independent (the Code recommends 100%), 27% of remuneration committee and only 10% of the strategy committee.

As it was previously mentioned, some positive change was mentioned during the observation according to the year of the annual report. However, it is still not enough. Despite the fact the Code of corporate governance was introduced in 2014, still not all the companies meet its recommendations, and for the last three years the situation has improved, but not significantly. However, nowadays in 2020-2021 there are more and more signs that the regulations will be toughen up. This is not just about the variables used in the research, but also some others, for example gender and racial diversity of the board. To be more precise, in 2020 Goldman Sachs, one of the leaders among investment bankers, claimed they will not list a company if there is no at least one minority representative on the board (Forbes Woman, 2020). In Russia MOEX does not have such requirements to the companies, however, the requests depend on the echelon. During the next several years, the requirements may change.

In the table 3 it is presented the descriptive statistics for the performance variables (ROA, ROE, COD).

Table 3. Descriptive statistics of the performance variables

Variable	Mean	Std. Dev.	Minimum	Maximum
ROA	0.0357	0.1199	-1.1020	0.6548
ROE	-0.1114	4.2744	-91.6569	22.6946
COD	0.0891	0.0690	0	0.6613

We cannot compare the results for ROA and ROE metrics with the cost of debt, because they show us extremely different measures. COD is additional variable allowing us to understand how board structure and audit quality are interrelated with the cost of debt, so showing us another side of company's value – value for the debtholders, while ROA and ROE are more specific performance characteristics.

We can see that the average cost of debt for companies in the sample is 9% and varies from zero to 66%. Zero cost of debt is for companies possessing no debt at all. These companies are mostly subsidiaries of larger companies, so they may be financed with equity of the parent company not debt. Some high values of the cost of debt may be explained by the fact that for measurement of debt we took into account data only on long-term and short-term loans of the company. At the same time, to calculate interest expenses company may consider, for example, liabilities related to assets held for sale, while not disclosing that. We do not think that this can significantly influence the results of the research.

The main difference between ROA and ROE is that for calculation of the ROA company's debt is also included, so ROE does not include the financial leverage of the company. ROE shows to the investors how efficiently their investments are generating profit to the company. At the same time, ROA helps to measure the management's performance – how they use assets to generate income. One main problem with ROE is that in case when both net income and equity are negative, it will show quite positive results, so they cannot be really comparable. Moreover, as we can see some companies had either negative capital, or negative net income, so the average ROE in the sample is also negative. We decided that this measure will not show the real performance of the companies, and the insignificant model confirmed that, so for the further research it was decided to leave only one metrics of the company's performance – ROA. The average ROA in the sample is 3.5%.

Finally, the table 4 shows the descriptive statistics for the control variables (other than ROA).

Table 4.   Descriptive statistics of the control variables

Variable	Mean	Std. Dev.	Minimum	Maximum
Lev	12.0581	183.7631	-221.1443	4863.796
Total assets	*505,274,157*	*1,922,806,046*	*89,760*	*21,882,348,000*
Size	17.6892	2.2353	11.4049	23.8089
SG	0.1036	0.2728	-0.9550	3.6331

As it can be seen in the table, companies in the sample have different results for control variables. In this research we use 3-4 control variables (for some models we also use ROA as a performance metrics).

Values of the financial leverage differ significantly in the sample. Lev variable was measured as the ratio of debt to equity of the company. For some companies, equity was negative, so the value of financial leverage is also negative. Moreover, this ratio also depends on the industry of the company. Again, capital-intensive firms require more financial investments and may attract more money from debtholders. Moreover, when company is rather big and has a good reputation, banks may lower the interest rates, so companies will prefer debt to equity as a source of financing.

The information on the total assets of the company is added for reference – in the research we use the variable Size, which is the natural logarithm of total assets. As you can see, in the sample there are both small and large companies. Most companies in the sample have the value of total assets at 1000 billion rubles, so the company with 21 000 billion rubles may be an outlier. Such a difference in Size may be explained by the fact that we have companies from different industries. Some of them (for example, Oil & Gas companies or energy ones) are more capital intensive, so they need more assets. However, as we take logarithmic values, the effect of these differences will not be that significant and we will be able to get normal distribution. The scatter plots for Total assets and Size are presented in the pictures 4 and 5 accordingly. We can see that the distribution of Size variable is smoother and have no significant outliers.
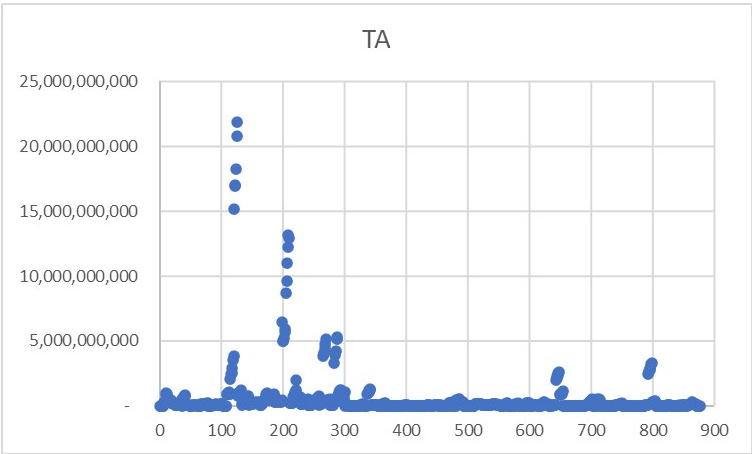
Picture 4. *Scatter plot for Total assets (TA) of the companies in sample, thousand rub.*
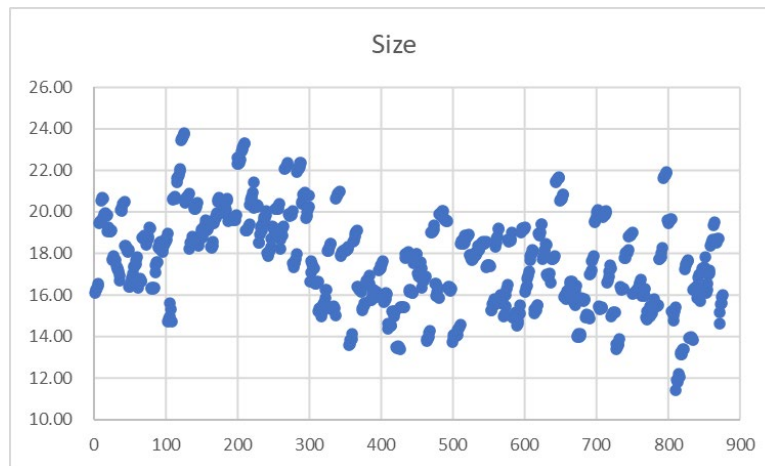
Picture 5. *Scatter plot for Size variable of the companies in sample*

Finally, the variable SG shows the sales growth of companies in the sample. We can see that on average companies grow at a rate of 10% per year, however, some of the companies have slowed down their positions, maybe due to the crisis, so have negative results. The most significant drop in sales was for some companies in 2015 when the crisis in Russia due to the sanctions was in full swing. This control variable will be used only in the model with discretionary accrual, based on different studies.

2.5. Regression analysis results

Another step before the construction of the regression models is understanding the correlation between variables to find if there is the multicollinearity problem. The correlation matrix is presented in the Appendix 2. We can see that there is some imperfect multicollinearity (correlation coefficient nearly equals 1), however, it may not be an error but just the specificity of the data. Moreover, some of the variables between which there appears a multicollinearity problem are not used in the same model (for example, we will not use metrics of different committees in one model, so for us there is no problem that correlation between the variable AudCom and RemCom is more than 80%). Moreover, we do not consider for further analysis on the multicollinearity variables with correlation less than 60%.

So, the variable that have correlation more than 60% and are assumed to be used in the same model are BrdInd and AudInd. Of course, the number of independent directors in the committee corresponds to the overall board independence. We believe there will be no mistake to include these variables in the models, therefore we do not drop them for running the final regression.

The regression analysis in this study was performed in three steps (according to three steps of the research: relationship between audit and accounting quality, between audit quality and board

structure, between audit quality, board structure and company's performance) using Stata software package. As it was discussed earlier, for each of the models there was made a choice between pooled regression model, fixed effects or random effects model.

For the most of the models the choice was done in favor of the Fixed Effects model, which is considered to be suitable for the analysis of the interrelation of the variables within the observations containing their own characteristics. In case, when the sample possesses some characteristics that can affect the results or change them, they need to be controlled, for example, by the Fixed Effects model.

However, since individual effects are presented in the model, there is a probability of heteroskedasticity problem, which was avoided by the usage of "robust" command in Stata in each of the models. It will help us to build better models and meet the requirement of homoskedasticity.

The first hypothesis of the research was formulated so that to check whether there is any relationship between the audit quality measured as Big-4 or non-Big-4 company and accounting quality of the financial reporting measured as the discretionary accruals calculated by the Jones model. The estimated coefficients of the first regression model are shown in table 5.

Table 5.   Results of the regression analysis for the Hypothesis 1

Variable	|DA|
Big4	-0.0120*
Size	-0.0073***
ROA	-0.0423
Lev	0.00001
SG	-0.0081
_cons	0.2278***
Prob>F	0.0000
R-Squared	0.0135
N	896

*, **, *** - significant at the 10%, 5%, 1% levels respectively

The model is significant at the 1% level. R-squared is rather low, however, it is quite explainable, because accounting quality cannot be improved only by the choice of auditor. There are a lot of other factors that may have impact on the discretionary accruals. We see that the coefficient before the variable Big4 is also significant at the 10% level, and the relationship between Big4 and DA is negative, what reflects our expectations. Based on the results of this model, we can say that on average Big-4 auditor in the companies in the sample leads to the 0.01 drop in the discretionary accruals. As a dependent variable we use the absolute value of the discretionary accruals, because earnings manipulation may be found in companies where discretionary accruals are different from zero (both less or greater that zero). For the further analysis it is enough that the coefficient before

variable is significant and has negative relationship with the discretionary accruals. This means that relation between audit quality and accounting quality is positive.

The second block of hypotheses (2-4) allows us to understand the relationship between some characteristics of the board and the audit quality of the company measured as a Big-4 auditor. Most of the model (except one, for the variable "all three committees") we used linear regression model with fixed effects. For the variable All3 we used logit-model. The estimated coefficients of the second block of models are shown in table 6.

Table 6.   Results of the regression analysis for the Hypotheses 2-4

Variable	BrdInd	All3	AudInd	RemInd	StrInd
Big4	0.0893***	0.4341**	0.1836***	0.1529***	0.0313**
Size	0.1556***	0.5461***	0.0947***	0.0741***	0.0356***
ROA	-0.0314	-0.9106	0.0738	0.2960***	-0.0566
Lev	-0.00003***	-0.0017	-0.0001***	-0.00004***	0.00001***
cons	-0.0964*	-10.5988***	-1.4139***	-1.1267 ***	-0.5395***
Prob>F	0.0000	0.0000	0.0000	0.0000	0.0000
R-Squared / Pseudo R2	0.1189	0.2141	0.4438	0.3628	0.1822
N	876	876	876	876	876

*, **, *** - significant at the 10%, 5%, 1% levels respectively

All the models are significant, so their results can be interpreted. Moreover, in all the models the coefficients before the independent variable Big4 are significant.

We can see from the table 6 that choice of the auditor has positive relationship with the independence of the board and board committees. On average ceteris paribus Big-4 auditor leads to the increase of the board independence by 9%, of the audit committee by 18%, of the remuneration committee by 15%, and of the strategy committee by 3%. However, it is difficult to claim that there are no other factors that affect both the choice of the auditor and the independence of the board. As we have already discussed, listed companies in Russia have requirements from the regulator and from the stock exchange about the independence and sometimes about the auditor. Hence, companies in the sample should already present better results than average Russian company. However, our hypotheses about the audit quality and independence of the board and committees have been accepted.

One more variable that was analyzed in this block of variables is All3 showing that company in the sample has all three committees recommended by the Code of corporate governance (audit, strategy and remuneration). The coefficient before Big4 in this logit-model is also significant. To interpret the coefficient, we calculated the marginal effects of the logit-model. The results show that the Big-4 auditor rises the probability that companies will have all three committees by 9%. So, that

means that out hypotheses that companies audited by Big-4 are more likely to organize all three committees on the board is accepted.

Final block of hypotheses was dedicated to the companies' performance and its relationship with board characteristics and audit quality. The results of the regression modeling are presented in the table 7.

Table 7. Results of the regression analysis for the Hypotheses 5-6

Variable	ROA	COD
BrdSize	0.0034**	-0.0017*
BrdInd	0.0171*	0.0341
All3	0.0082	-0.0033
Big4	0.0057	-0.0073
Lev	-0.00001***	0.00002***
Size	0.0119***	-0.0035***
ROA	–	-0.0042
_cons	-0.1409***	0.1332***
Prob>F	0.0000	0.0000
R-Squared	0.0363	0.0685
N	876	876

*, **, *** - significant at the 10%, 5%, 1% levels respectively

As there is correlation between committees' independence and board independence, it was decided to include in the model only BrdInd variable. As in the previous regressions, all the models are significant. However, not all the coefficients before the independent variables are significant.

We can see that for most dependent variables the direction of the relationship of the variables is opposite for ROA and COD. It corresponds to our expectations, because our hypotheses assume that big-4 auditor and recommended board structure are positively related with the financial performance and negatively with the cost of debt. The only result that differs is the board independence, coefficient before which (based on the results of the model) has positive sign, however, the coefficient before that variable is not significant, so we cannot make a conclusion on the interrelation between board independence and cost of debt.

As we can see from the table 7, on average ceteris paribus: increase of the Board size by 1 director will lead to the 0.3% increase in the ROA; the addition to the Board of 1 independent director may have positive effect of 1.7% on the ROA. Speaking about the cost of debt, on average ceteris paribus: increase of the Board size by 1 director will lead to the 0.2% decrease in the ROA; the addition to the Board of 1 independent director may increase the cost of debt by 3.4%.

The coefficients before the variables that indicate the presence of all three committees on the board and the auditor from the Big-4 company are insignificant for both models. Hence, we cannot

argue that there is a difference in the value of the firm performance indicator and cost of debt for those companies that have these committees and auditor from Big-4 compared to those that do not have them.

However, the results still cannot be final, because there may be some third factors that can affect both dependent and independent variables. Moreover, there may be some opposite interrelation. For example, the choice of the auditor may be dependent variable, while ROA will be independent, so companies with better financial performance may afford to take an auditor from the Big-4. These questions may be reviewed in future studies.

2.6. Discussion of the results

The hypotheses summary based on the results of regression models is presented in the table 8.

Table 8. Hypotheses summary

Is the hypothesis accepted or rejected?	
H1. Companies audited by Big-4 auditors have higher accounting quality.	Accepted
H2. Companies that are audited by Big-4 audit firms have more independent directors on the board.	Accepted
H3. Companies that are audited by Big-4 audit firms are more likely to have all three board committees recommended by the Code.	Accepted
H4. Companies that are audited by Big-4 audit firms have a greater share of independent members on board committees.	Accepted
H5. Companies that are audited by Big-4 and have recommended board structure are more likely to have lower cost of debt.	Neither fully accepted, nor rejected
H6. Companies that are audited by Big-4 and have recommended board structure are more likely to have higher financial performance.	Neither fully accepted, nor rejected

So, as we can see from the table 8, most of the hypothesis have been accepted. The first hypothesis analyzed the relationship between audit and accounting quality. Based on the results of the regression modeling we found negative relationship between audit quality and discretionary accruals. It means that on average, companies in the sample audited by Big-4 firms present financial statement of higher accounting quality. For us this result is important, because it shows that we can use the proxy Big-4 to measure audit quality in further hypotheses. Moreover, the choice of the auditor from the Big-4 company may signify on the better accounting quality of the published financial statement and less earnings manipulations in the company, which corresponds to other researches (Matoni, Iuliano, 2015; Rahman et al., 2020).

The hypotheses 2 and 4 show that there is the relationship between audit quality measured by the Big-4 proxy and the independence of the board and board committees. Such results are consistent with other researches on the topic presented in Chapter 1. On average, companies audited by the Big-4 auditor have more independent directors. The largest coefficient is before the variable showing the independence of audit committee. However, as it was discussed earlier, we cannot be sure that there are no other factors that affect both the choice of the auditor and the independence of the board, because Russian public companies should meet the requirements from the regulator and from the stock exchange about the independence. Hence, companies in the sample should already present better results than average Russian company. Moreover, there may be an opposite "influence", because independent directors may insist on choosing the auditor from Big-4 company. At the same time there are still some studies that claim that companies that have a Big-4 auditor are less likely to attract independent directors (Jiraporn et al., 2018) and these two parts of corporate audit mostly substitute each other, because companies do now want to spend additional money on both of them.

Also, the hypothesis 3 was accepted. It means that choosing an auditor from Big-4 firms will raise the probability of the presence of all three committees in the company by 9%, which meets the recommendations of the Code of corporate governance. Hence, the choice of the auditor contributes to the board structure in Russian companies that corresponds to the recommendations of regulators. There were no previous researches that analyzed exactly the relationship between the presence of the committees and auditor of the company, so we cannot compare the results, however, it reflects our expectations.

We could not neither fully accept, not reject the hypotheses on the companies' performance and cost of debt. As it was mentioned earlier, the direction of the interrelation of the variables is opposite for ROA and COD, which meets our expectations. The board size has positive relationship with the firm's performance and negative one with the cost of debt. There are special recommendations of both MOEX and Code of corporate governance on the size of the board (from 5 to 15 directors). Most of the companies in the sample meet these requirements. However, there is still question which size is the optimal one. Based on the results of our research, it is expected that the larger board will lead to better company's performance. This corresponds to other studies. For example, Kalsie and Shrivastav (2016) claim that a larger board may include more directors who monitor the operations of the company and present the opinion of shareholders. Moreover, they bring a variety of expertise and knowledge.

The conclusion on the relationship between board independence and cost of debt cannot be made since the coefficient before that variable was insignificant. However, there is slight positive interrelation with the financial performance measured as ROA. In most previous studies no empirical confirmation was obtained on the relationship between these two variables (Berezinets et al., 2013; Fuzi et al., 2016). However, some of the researches reveal that board independence may have a positive and negative interrelation with the accounting and market-based metrics of financial performance, respectively. As we used accounting-based measure (ROA), the results of the Thesis correspond to the results of the study (Zubeltzu et al., 2019).

However, as the coefficient is significant only at 10%, the relationship is really slight. We believe that this may be explained by the fact that only few Russian companies include really "independent" directors (despite the fact that more than 5 years have passed since the introduction of the Code of corporate governance). In some annual reports that were analyzed while collecting the data, there is a remark that "the directors do not fully meet the requirements of the Code, but the Board recognized them as independent". Some companies may add independent directors just to meet the formal requirement, however, in the real operations they will not have enough power in decision-making. In Russian practice, an independent director rather plays the role of a senior management consultant and promotes greater respect and trust in the company [KPMG, 2011]. It can be concluded that insufficient attention is still paid to the role of the institution of independent directors in Russia. Nevertheless, there are tendencies towards the development of this institution (including legislative ones).

Moreover, in this research no empirical evidence was found for a significant difference in the ROA and COD between companies that have audit, remuneration and strategy committees, and those that do not have them, which has not changed since the period before introduction of the code (Berezinets et al., 2013). It may mean that the role of these committees is still just informative, but they do not really take part in real operations of the company, therefore, the presence of a committee does not necessarily indicate its real impact on the company's performance.

Finally, no significant difference was found between the companies audited by Big-4 or any other auditor and the relationship of this variable with the company's performance.

2.7. Managerial implications

Investors and other stakeholders of the companies are willing to invest their money in the safest way. The one way to control that management is acting in the best interest of the company and not in their own is always assumed to be audit (both internal and external) and corporate governance

system. However, as we know, audit and good corporate governance system (for example organization of committees and attraction of independent directors) may be very costly to the companies. Nowadays there is no clear answer (especially in Russia) whether audit and special board characteristics are beneficial for companies or just create additional costs. That is why it is assumed that getting answers to these questions will be helpful for resolving issues for investors who invest money in audit.

After conducting this research, we have made some decisions that may be in some pay useful for the company investors and managers.

Firstly, we have identified some positive relationship between audit quality and accounting quality in Russian companies, based on the analysis of the interrelation between auditor from Big-4 (as a proxy for audit quality) and earnings manipulations measured with discretionary accruals (as a proxy for accounting quality). In such situation, investors have one more indicator that company is ethical and provides reliable figures in its financial statements. Hence, knowing the auditor of the company, stakeholders that are willing to invest in the company, may assume that company's financial statements are true and fair. However, there was no empirical confirmation of any significant difference for the company's performance in case of choosing the auditor from Big-4.

Secondly, our sample shows that there is direct positive link between board (and committees') characteristics and auditor of the company. Hence, when making a choice on the auditor companies may take into account the conclusions made in this research that may have some effect on the board structure. The auditor from Big-4 has positive relationship with the independence of the board and its committees and the presence of all three committees on the board. The independence of the board may be good for company's reputation and attractive for investors, while committees may be useful in some operations, as they pay more attention to the fields of their expertise than the board itself. However, here it should be taken into account the fact that there may be some third factor affecting both of these variables and leading to such relationship.

Moreover, some interrelation was found between the board size and board independence and the company's performance. It means that companies should organize larger board of directors (not just 5 people based on the minimum requirements, but choose the number that is suitable for the exact company) and include more independent directors. However, the independent directors should have real power, and not be just formal to meet the recommendations of the Code and MOEX.

In addition to this, the board size has negative relationship with the cost of debt, hence again larger board may be beneficial for companies.

Finally, in the first chapter we have identified the main factors that can affect audit quality. Knowing them, investors may look for the auditor in such a way that will increase audit quality, which for example, may affect also the accounting quality. This may become one of the limitations for the conflict of interest in the company. While making the choice of an auditor companies may take into account such factors as the reputation of an audit firm, its size, audit fees and audit firm's specializations and expertise.

2.8. Limitations of the research

Despite the fact that the aim of the research has been achieved in some ways, the research still has some limitations that leave place for the future studies.

The first limitation is connected with the data used in the research. Financial data was obtained from the Eikon database. Although it is thought to be one of the most exact databases, there still be some minor inaccuracies that could lead to insignificant variance in the regression models. Moreover, characteristics of the board have been collected by hand from the annual reports. Some companies do not present the results in proper way (for example, data on the independence of the board directors), hence, some discrepancies are still possible.

Moreover, as it was mentioned earlier, some methods of gathering data were not so easy to use (for example, surveys) because of difficulties in getting contacts of the auditor managers and partners and financial officers of the companies. That is why some parts of the research have been omitted and include only literature analysis. Moreover, one variable that also could have been useful – audit fees was also omitted from the research, because companies in Russia do not have an obligation to disclose this in their financial statements, so not all of them really do it.

Besides, some additional characteristics of the board (connected not only with the board committees) or other proxies of audit quality may be used in future researches. For example, speaking about the board, in future the requirements may also change in favor of the board diversity (women on board, women in the committees, racial diversity, etc.). Hence, such variables may also be added in future studies. Moreover, it is also interesting to make the opposite analysis in some models, for example, take the audit quality proxy as a dependent variable and check the relationship with the board characteristics. In addition to this, market-based measures of the company performance (e.g., Tobin's Q) may also be analyzed. Finally, it will be interesting to conduct the same analysis dividing the sample into several subsamples by the listing level of the company.

CONCLUSION

The goal of this research as it was previously mentioned was to investigate the relationship between audit quality, board structure and the performance of the Russian public companies for the period 2014-2019. The relationship was tested by linear regression and logit- models with Stata software. The final sample included 146 Russian public companies from different industries.

Based on many researches, we can make a conclusion that effective corporate governance system, special board characteristics and audit system of the company may have a positive effect on the companies' performance, because of the mitigation of the agency problem and, hence, increasing attractiveness for company investors (both shareholders and debtholders).

The research was carried out in several stages. At the first stage of the work, a number of other studies on the relevant topics were analyzed. This was done for several reasons: better understand the terminology and methodology and search for possible variants of variables that can be included in the models and models themselves. Based on the results of the analysis of articles, we have also identified the factors that may affect the audit quality. In this study we have no aim to test these factors for Russian companies, but only conduct the literature review to distinguish them. Moreover, literature review helped us to formulate the hypotheses of the research, choose the models and variables. We had three parts of the further analysis: understanding the relation between audit quality and accounting quality; investigating the relationship between audit quality and board characteristics (board independence, presence of three main committees, and their independence); finding the interrelation between audit quality, board characteristics and company's performance.

At the next stage data collection was carried out. Information on the company's financial statements was obtained from Thomson Reuters database. Information related to elements of the corporate governance system of companies and auditor was obtained from the annual reports of each company for each year of the study.

The summary of the results of the study is the following:
- Big-4 auditors provide higher audit quality and constrain the earnings manipulation strategies in the companies.
- Companies that are audited by Big-4 audit firms have more independent directors on the board.
- Companies that are audited by Big-4 audit firms are more likely to have all three board committees recommended by the Code.
- Companies that are audited by Big-4 audit firms have a greater number of independent members on audit committees.

- Companies that are audited by Big-4 audit firms have a greater number of independent members on remuneration committee.

- Companies that are audited by Big-4 audit firms have a greater number of independent members on strategy committee.

- It was not possible to make the only conclusions on the relationship between audit quality, board structure and companies' performance based on the sample used in the research. No significance difference was found between the companies audited by Big-4 or non-Big-4 firms and companies organizing all three committees. However, some relationship was found with the board size and its independence.

The research is not free from some limitations, such as the lack of some data, omitting of variables that can also have impact on the studied relations. However, despite all mentioned above, this research still provides theoretical and practical outcomes that can be useful for company's management, investors or debtholders, or could be taken as a basis for future studies.

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APPENDICES

Appendix 1. List of companies

##	Company	Industry	##	Company	Industry
1	ABRAU-DURSO PAO	Retail	74	KURGANSKAYA GENERATING C.	Energy
2	AEROFLOT	Airline	75	KUYBYSHEVAZOT PAO	Chemics
3	AK ALROSA PAO	Metallurgy	76	KUZBASSKAYA TOPLIV. COMP.	Oil & Gas
4	AKRON	Chemics	77	LENOZOLOTO	Metallurgy
5	DOROGOBUZH	Chemics	78	LEVENGUK OAO	Other
6	AMO ZIL PAO	Automobile	79	MAIL GROUP	IT
7	ANK BASHNEFT'	Oil & Gas	80	MAGADANENERGO	Energy
8	AVIAKOMPANIYA UTAIR	Airline	81	MAGNITOGORSK IOSTL.WORKS	Metallurgy
9	BASHINFORMSVYAZ' PAO	Telecom	82	MECHEL	Metallurgy
10	BELUGA GROUP PAO	Retail	83	MKF KRASNYI OKTYABR	Automobile
11	BURYATZOLOTO PAO	Metallurgy	84	MORDOVSKAYA ENERGY COMP.	Energy
12	CHELYABINSK TUBE	Metallurgy	85	MORION	Telecom
13	CHELYABINSKIY METAL	Metallurgy	86	MGTS	Telecom
14	CHZPSN-PROFNASTIL	Metallurgy	87	MOSTOTREST PAO	Transport
15	DETSKIY MIR PAO	Retail	88	MRSK SEVERO	Energy
16	ENEL ROSSIYA PAO	Energy	89	MRSK SIBIRI PAO	Energy
17	ETALON GROUP	Real estate	90	MRSK TSENTRA I	Energy
18	FARMSINTEZ PAO	Pharma	91	MRSK TSENTRA PAO	Energy
19	FED.HYGN.CO. RUSHYDRO	Energy	92	MRSK YUGA PAO	Energy
20	GAZPROM NEFT	Oil & Gas	93	NEFAZ PAO	Automobile
21	GAZPROM PAO	Oil & Gas	94	NIZHNEKAMSKNEFTEKHIM	Chemics
22	GMK NORIL'SKIY NIKEL	Metallurgy	95	NIZHNEKAMSKSHINA PAO	Automobile
23	GRUPPA CHERKIZOVO	Agriculture	96	NOVOROSSIYSK KOMBINE	Transport
24	INTER RAO	Energy	97	NOVOROSSIYSK SEA PORT	Transport
25	KAMAZ PAO	Automobile	98	NPO FIZIKA OAO	Automobile
26	LENTA	Retail	99	NPO NAUKA	Automobile
27	LSR GROUP	Real estate	100	OGK-2 PAO	Energy
28	M VIDEO	Retail	101	SHOES OF RUSSIA PAO	Retail
29	MAGNIT PAO	Retail	102	ORGANICHESKIY SINTEZ	Chemics
30	MEGAFON PAO	Telecom	103	PERMSKAYA ENERGY COMP.	Energy
31	MOBIL'NYE TELESI	Telecom	104	POLYMETAL	Metallurgy
32	MOESK	Energy	105	RASPADSKAYA PAO	Metallurgy
33	MOSENERGO PAO	Energy	106	ROSSETI SEVERNYI	Energy
34	NK LUKOIL	Oil & Gas	107	ROSSETI VOLGA PAO	Energy
35	NK ROSNEFT' PAO	Oil & Gas	108	ROSSIYSKIYE SETI	Energy
36	NK RUSSNEFT' PAO	Oil & Gas	109	RUSAL	Metallurgy
37	NOVATEK PAO	Oil & Gas	110	RUSOLOVO PAO	Metallurgy
38	NOVOLIPETSK STEEL	Metallurgy	111	RUSPOLIMET PAO	Metallurgy
39	PIK GROUP	Real estate	112	RUSSKAYA AKVAKUL	Retail
40	POLYUS PAO	Metallurgy	113	RYAZAN ENERGY	Energy
41	QUADRA-GENERIRU	Energy	114	SAMARAENERGO PAO	Energy
42	ROSSETI LENENE	Energy	115	SARATOVENERGO	Energy
43	ROSTELECOM	Telecom	116	SELIGDAR PAO	Metallurgy
44	RUSAGRO	Agriculture	117	SLAVNEFT	Oil & Gas

Appendix 1. List of companies (continuation)

45	RZhD	Transport		118	SOLIKAMSKIY MAGNIY	Chemics
46	SEVERSTAL' PAO	Metallurgy		119	SOVKOMFLOT PAO	Airline
47	SOLLERS PAO	Automobile		120	SREDNEURALSKIY MET. ZAV.	Metallurgy
48	SURGUTNEFTEGAZ PAO	Oil & Gas		121	STAVROPOL'ENERGO	Energy
49	TATNEFT	Oil & Gas		122	TAMBOVSKAYA ENERGY	Energy
50	X5 RETAIL GROUP	Retail		123	TATTELEKOM PAO	Telecom
51	APTECHNAYA SET' 36	Pharma		124	TERRITORIAL'NAYA COMP.	Energy
52	ASHINSKIY METAL	Metallurgy		125	TGK-1 PAO	Energy
53	ASTRAKHANSKAYA ENERGY	Energy		126	TNS ENERGO KUBAN	Energy
54	CHELYABINSKIY KUZN. ZAVOD	Metallurgy		127	TNS ENERGO NIZ. NOV.	Energy
55	DAL'NEVOSTOCHNAYA ENEGY	Energy		128	TNS ENERGO ROSTOV	Energy
56	ELEKTROTSINK	Metallurgy		129	TNS ENERGO VORONEZH	Energy
57	FSK YEES PAO	Energy		130	TNS ENERGO YAROSL	Energy
58	GK TNS ENERGO PAO	Energy		131	TOMSKAYA RASPR. COMP.	Energy
59	IDGC OF URALS	Energy		132	TRANSCONTAINER	Transport
60	HUMAN STEM CELL INSTITUTE	Pharma		133	TRANSNEFT	Oil & Gas
61	IRKUTSKENERGO PAO	Energy		134	TRUBNAYA METALL. COMP.	Metallurgy
62	IZHSTAL' PAO	Metallurgy		135	TSENTRAL'NYI TELEGRAF	Telecom
63	KALUZHSKAYA ENERGY	Energy		136	TUCHKOVSKIY KOMB.	Metallurgy
64	KAMCHATSKENERGO PAO	Energy		137	TUYMAZINSKIY ZAVOD	Automobile
65	KHIMPROM PAO	Chemics		138	VAR'YEGANNEFTEG	Oil & Gas
66	KOMBINAT YUZHURAL-NICKEL	Metallurgy		139	VLADIMIRSKIY KHIMICH	Chemics
67	KORSHUNOV MINING	Metallurgy		140	VOLGOGRADENERGOSBYT	Energy
68	KOSOGORSKIY MET. COMBINE	Metallurgy		141	VYBORGSKIY SUD. ZAVOD.	Other
69	KOSTROMSKAYA SBYTOV. COM.	Energy		142	YAKUTSENERGO	Energy
70	KOVROVSKIY MEKHAN. ZAVOD	Automobile		143	YAKUTSKAYA TOP. COMP.	Energy
71	KRASNOKAMSKII ZAVOD	Metallurgy		144	YANDEX	IT
72	KRASNOYARSKENERGOSBYT	Energy		145	YUNIPRO PAO	Energy
73	KUBAN'ENERGO PAO	Energy		146	ZVEZDA PAO	Automobile

Appendix 2. Correlation matrix

	BrdSize	BrdInd	All3	AudCom	AudInd	RemCom	RemInd	StrCom	StrInd	Big4	SG	Size	Lev	ROA	ROE	COD
BrdSize	1															
BrdInd	0.0299	1														
All3	0.3726	0.2249	1													
AudCom	0.4752	0.3928	0.5855	1												
AudInd	0.3164	0.6034	0.3781	0.6780	1											
RemCom	0.5013	0.3806	0.6937	0.8440	0.6631	1										
RemInd	0.3063	0.5620	0.3984	0.5669	0.8538	0.6717	1									
StrCom	0.3626	0.2231	0.9711	0.5883	0.3630	0.6577	0.3747	1								
StrInd	0.2958	0.3327	0.6712	0.3930	0.4371	0.4656	0.4520	0.6518	1							
Big4	0.3085	0.3078	0.3069	0.5136	0.4793	0.5422	0.4321	0.2854	0.2608	1						
SG	-0.0458	0.0812	-0.024	0.0605	0.0824	0.0614	0.0950	-0.0254	-0.008	0.0518	1					
Size	0.5249	0.2814	0.4910	0.6549	0.6351	0.6658	0.5659	0.4640	0.4202	0.4821	0.0122	1				
Lev	-0.0270	-0.0330	-0.041	-0.0734	-0.0484	-0.0594	-0.0384	-0.0424	-0.026	0.0031	0.0129	-0.034	1			
ROA	0.0441	0.0332	0.0534	0.1187	0.1350	0.1690	0.1946	0.0425	0.0425	0.0916	0.1620	0.1758	-0.0262	1		
ROE	0.0222	0.0284	0.0182	0.0621	0.0598	0.0404	0.0229	0.0191	0.0091	0.0004	-0.0035	0.0478	-0.8437	0.0441	1	
COD	-0.0250	0.0444	-0.069	-0.0686	-0.0183	-0.0614	-0.0563	-0.0530	-0.039	-0.067	0.0597	-0.096	0.0505	-0.0291	-0.0043	1