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The role of the board of directors and the audit committee in restraining earnings management: analysis of Russian firms

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Описание цели, задач и основных результатов	<p>Цель настоящей работы состоит в установлении взаимосвязи между структурой совета директоров, а также наличием и структурой комитета по аудиту и манипулированием прибылью в российских компаниях. Для достижения цели в ходе работы решаются следующие задачи:</p> <ol style="list-style-type: none">1. Проанализировать феномен манипулирования прибылью и последствия манипулирования прибылью для заинтересованных сторон компании;2. Определить роль совета директоров и комитета по аудиту в контроле за качеством финансовой отчетности компании;3. Обосновать метод оценки уровня манипулирования прибылью в компаниях;4. Сформулировать гипотезы и собрать данные для проведения эмпирического исследования;5. Определить характеристики совета директоров, взаимосвязанные с уровнем манипулирования прибылью в российских компаниях;6. Определить характеристики комитета по аудиту, взаимосвязанные с уровнем манипулирования прибылью в российских компаниях. <p>Результаты анализа, проведенного с помощью панельных данных по 184 российским компаниям за период с 2014 по 2018 год, показывают наличие взаимосвязи между структурой совета директоров, а также наличием и структурой комитета по аудиту и манипулированием прибылью в российских компаниях.</p> <p>Доля независимых директоров в совете, а также размер совета директоров отрицательно взаимосвязаны с уровнем манипулирования</p>

	<p>прибылью. Российские компании, в которых существует комитет по аудиту, показывают меньший уровень манипулирования прибылью. При этом, однако, размер комитета по аудиту положительно взаимосвязан с уровнем манипулирования. В то же время, присутствие в комитете по аудиту директоров с финансовой экспертизой помогает уменьшить уровень манипулирования прибылью. Занятость членов как совета директоров, так и комитета по аудиту также положительно взаимосвязана с уровнем манипулирования прибылью.</p> <p>Наконец, российские государственные компании показывают более высокий уровень манипулирования прибылью, чем российские частные компании. При этом, положительная взаимосвязь между размером комитета по аудиту и уровнем манипулирования прибылью характерна только для государственных компаний, в то время как наличие директоров с финансовой экспертизой в комитете по аудиту связано с более низким уровнем манипулирования прибылью лишь для частных компаний.</p>
Ключевые слова	Манипулирование прибылью, комитет по аудиту, совет директоров, корпоративное управление

ABSTRACT

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Description of the goal, tasks and main results	<p>The goal of the thesis is to determine the association between the structure of the board of directors and the presence and composition of the audit committee and earnings management for Russian firms. The following interim tasks are completed in order to fulfill that goal:</p> <ol style="list-style-type: none"> 1. To analyze the phenomenon of earnings management and its consequences for the firm's stakeholders; 2. To outline the role of the board of directors and the audit committee in the control over the quality of the firm's financial reporting; 3. To justify the method of the estimation of the firm's level of earnings management; 4. To formulate the research hypotheses and to collect data for empirical research; 5. To identify the characteristics of the board of directors that are associated with the level of earnings management for Russian firms; 6. To identify the attributes of the audit committee that are associated with the level of earnings management for Russian firms. <p>The results of the analysis that was conducted on the panel data from 184 Russian firms for 2014-2018 indicate that the structure of the board of directors and the presence and composition of the audit committee are associated with the level of earnings management.</p> <p>The percentage of independent directors on board and its size are negatively related to the extent of earnings management. Russian firms where the audit committee is present show lower level of earnings</p>

	<p>management. However, the size of the committee is positively associated with the magnitude of manipulations. At the same time, audit committee members who possess financial expertise help to curb earnings management. The busyness of both directors and audit committee members is also positively related to the level of earnings management.</p> <p>Finally, Russian SOEs show a higher level of earnings management than Russian private firms. The association between the audit committee size and the level of earnings manipulations holds for SOEs in particular, while the presence of financial experts in the committee reduces the magnitude of earnings management only for private firms.</p>
Keywords	Earnings management, audit committee, board of directors, corporate governance

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INTRODUCTION

Earnings represent one of the key indicators of the company's performance. It is applied by outside stakeholders in a wide variety of cases. For example, earnings indicator is used in the covenants established by creditors who need to control company's activities and prevent it from taking steps that could lead to the eventual bankruptcy. Earnings are also utilized in corporate valuation via market multiples; one of the most popular multiples is the price-to-earnings ratio that establishes a direct relationship between company's earnings and its share price.

What distinguishes earnings from the other key indicators of financial performance is their accounting nature. While such indicators as market capitalization are market-based, earnings figure is reported in the company's financial statements. It means that managers have a greater influence on earnings than on the other figures that characterize the company's performance. Managers may exercise discretion over the financial reporting; when they do so with a particular purpose, they resort to earnings management.

Fraudulent earnings management can result in serious negative consequences for all company's stakeholders: for example, in the famous Enron corporate scandal, the firm, which was resorting to all forms of window-dressing in its financial statements, was forced into bankruptcy, while employees lost their jobs and investors lost their money (Healy and Palepu 2003). However, earnings management does not necessarily imply fraudulent actions. On the contrary, most extant studies focus on the legal earnings management that is allowed by the flexibility of accounting standards and consists in making certain accounting choices (e.g. how large a provision for bad debts should be) or altering real decisions or transactions (e.g. how large the marketing expenditure should be).

Legal earnings management is used in a variety of cases by managers that pursue different incentives. In many cases, manipulations are performed before or after some particular event, such as the initial public offering (Teoh, Welch, and Wong 1998) or the competition for government subsidies (Jiang et al. 2018). Some managers may also use a long-term earnings management strategy — income smoothing, which helps to report more stable earnings during consecutive time periods.

Various groups of stakeholders are affected by reporting manipulations. For outside stakeholders, it is not easy to distinguish between window-dressed and real figures in the accounting information. For creditors, it becomes more difficult to control companies, as covenants that are tied to the reported figures may not represent the real performance of the enterprise. For investors, there is a risk of making a wrong investment decision based on the distorted financial reporting data. Several studies reported a negative effect of earnings

management on the shareholders' returns or the firm's reputation. For governments, earnings management presents a fiscal risk, as companies may engage in manipulations in order to decrease their effective tax rate. In other words, managers' self-interest that results in earnings management creates hurdles for many other company's stakeholders.

Corporate governance system should act as a bridge between the interests of managers and those of other stakeholders, especially investors. Corporate governance mechanisms should restrain earnings manipulations by imposing additional controls and checks (Daily, Dalton, and Canella 2003). One of the finance-related functions of the corporate governance system is to ensure credibility and relevance of the financial statements. The central internal corporate governance mechanism that deals with the quality of the financial information is the board of directors. In many companies, the audit committee is also established by the board of directors with the aim of control and verification of the data that is going to be published in the company's external reports. However, while these corporate governance mechanisms exist in many public companies, the composition, functionality and structure of the board and the audit committee differ a lot. Some key attributes of the board and the audit committee are the independence of directors, the level of their financial expertise or the number of other directorships held by them.

Several prior studies, mainly of the developed markets, such as that of the U.S or European countries, have found that certain characteristics of the audit committee and the board of directors, such as their size, the financial expertise or the independence of their members, help to restrain earnings manipulations (Klein 2002; Piot and Janin 2007; Sierra García, Ruiz Barbadillo, and Orta Pérez 2012). However, the results vary from country to country. As for the Russian context, few existing studies of the phenomenon of earnings management focus mainly on the illegal earnings management (Volkov and Nikulin 2013). In the domain of corporate governance, several studies have analyzed the structure of the board of directors of Russian firms (see, for example, (Beresintets, Ilina, and Cherkasskaya 2013)); yet, there is no study that focused on the presence, role and composition of the audit committee in Russian companies. Thus, the thesis represents the first study of the topic for the Russian firms.

This study aims at covering this research gap and looks at the characteristics of those corporate governance mechanisms in Russia. The goal of the thesis is to determine the association between the structure of the board of directors and the presence and composition of the audit committee and earnings management for Russian firms. The following interim tasks are completed in order to fulfill that goal:

1. To analyze the phenomenon of earnings management and its consequences for the firm's stakeholders;

2. To outline the role of the board of directors and the audit committee in the control over the quality of the firm's financial reporting;
3. To justify the method of the estimation of the firm's level of earnings management;
4. To formulate the research hypotheses and to collect data for empirical research;
5. To identify the characteristics of the board of directors that are associated with the level of earnings management for Russian firms;
6. To identify the attributes of the audit committee that are associated with the level of earnings management for Russian firms.

The study will be relevant for a wide variety of companies' stakeholders. First, the regulators might need to develop a better understanding about the efficiency of the board and audit committee monitoring of the financial information quality. Perhaps some changes in the future legislation could improve the quality of internal monitoring system, prevent manipulations and protect stockholders (as well as the other stakeholders). Second, the implications for investors are also significant; they might be able to understand whether the existing corporate governance mechanisms are deterring managers from earnings manipulations and if they need to adjust for these manipulations when making estimations and investment decisions. Moreover, investors may also initiate changes in the corporate governance mechanisms of their own companies. Third, directors and auditors themselves may see the areas where their control might be weak for the moment and consider changes to the composition of the corporate governance mechanisms that are currently established in their firms. The study can also spotlight the issues which require a closer attention in the future.

The rest of the paper is organized as follows. Chapter 1 presents a theoretical review on the issue of earnings management, the types of earnings management and its potential consequences for various stakeholders of the firm. Next, the Chapter 1 focuses on the role corporate governance mechanisms, i.e. the board of directors and the audit committee, in the monitoring of the quality of the company's financial information and the extant research linking the attributes of the board of directors and the audit committee with the extent of earnings management. At the end of the Chapter 1, the hypotheses of this study are developed.

Chapter 2 starts with the description of the sample used in this study and the outline of the research methodology. Next, the analysis of descriptive statistics for variables utilized in the study is demonstrated. After that, the empirical results are presented: models for the characteristics of both the board of directors and the audit committee and the level of earnings management are estimated and discussed. Additional analysis deals with the issue of state ownership and the

differences in the association between the characteristics of the board and the audit committee and the magnitude of earnings management for state-owned and private Russian enterprises.

The research in this study was conducted on the sample of 184 Russian public companies. The panel data were collected for 2014-2018. The databases of Thomson Reuters (Refinitiv) Eikon, SKRIN and SPARK were used to collect accounting data. E-disclosure database of corporate reports of Interfax was also utilized to gather data on corporate governance mechanisms' attributes from the companies' annual reports. The statistical analysis was conducted in the Stata software package.

CHAPTER 1. EARNINGS MANAGEMENT AND CORPORATE GOVERNANCE: THEORETICAL REVIEW

1.1. Definition of earnings management

Researchers have started to study the phenomenon of earnings management in the 1970s. Earnings management has received a significant attention from the scholars; however, there is still no consensus about a single earnings management definition. In this work, the definition from (Schipper 1989) will be used. According to the researcher, earnings management may be defined as a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain.

This definition incorporates several advantages. First, it emphasizes the purposeful nature of earnings management. Accounting standards provide a certain freedom in the accounting choices made by the managers. Certainly, not every choice should be considered as earnings management: accountants opting for amortization method or choosing whether to expense or capitalize R&D costs are not necessarily engaged in any manipulation. What differentiates earnings management is a presence of the specific purpose that determines the accounting choices (Volkov and Nikulin 2013). Second, the definition also emphasizes that the act of earnings management differs from an accounting error. Accounting errors are unintentional mistakes, such as the incorrect interpretation of certain facts or numerical mistakes, that could be made in the process of financial statements preparation. Finally, it distinguishes between the internal and external financial reporting: earnings management is primarily used in the external reporting context and not in the managerial accounting, as managers' aim is to give a specific information or message to the external stakeholders.

Broadly, the issue of earnings management arises from the asymmetric information that shareholders and managers possess about the firm (Volkov and Nikulin 2013). Due to the separation of ownership and control, managers as insiders have more precise data about the company, its operations and financial performance. At the same time, for shareholders (and other outside stakeholders), constant monitoring is costly. Moreover, outside stakeholders are usually not capable to trace earnings manipulation, as they only have limited information about the firm.

To present information and facts about the firm in a certain way for the outside stakeholders, managers may exercise discretion and resort to their own professional judgment while preparing financial statement. Those judgements arise from the accrual basis of the financial accounting. In accrual accounting, earnings are different from cash flows, so, in case of P&L, managers often deal with the future revenue streams. Revenue is accounted when it is earned; frequently the product or service is delivered to customer and sale is completed in accounting terms,

while the money is still expected to be paid in the future. Moreover, under the existing accounting practices, managers also estimate, for instance, how long the marketable security will be held or whether the existing R&D developments will impact future cash flows. In other words, because of the flexibility of the existing accounting standards, it is impossible to calculate earnings figure without making accounting choices.

Certainly, the regulators could tighten the accounting standards and at least partially eliminate the room for professional judgement. However, this is, first, unfeasible, as the business practices constantly evolve and new situations arise for which the rules have not been established yet. Second, by providing room for judgment, regulators give managers an opportunity to report the facts in the most precise way, thus making the financial statements more informative for outside stakeholders. Third, the flexibility in accounting might deter managers from manipulations in real operations, which could result in worse consequences for the company and its shareholders (Fields, Lys, and Vincent 2001).

Earnings management can be legal or illegal (Dechow and Skinner 2000). Legal earnings management implies certain accounting choices that are allowed by the accounting standards. Although these practices do not contradict with the regulations, systematic accounting choices can still have significant impact on the reported figures. Dechow and Skinner (2000) classify the legal accounting practices into three categories. Neutral accounting means reporting the facts “as is”. Under neutral accounting, managers do not aim to impact the decision-making process of outside stakeholders, so earnings management does not occur. Aggressive and conservative accounting, by contrast, indicate the presence of earnings management. Aggressive accounting implies overestimating the expected streams of revenue and underestimating costs. For example, aggressive accounting practices include the understatement of reserves or postponing of the R&D costs. By contrast, conservative accounting is connected with the underestimation of revenues and overestimation of costs; it can be achieved, for instance, via overstatement of reserves. It is easy to notice that in case of aggressive accounting, earnings are inflated, whereas conservative accounting will result in lower earnings.

In case of illegal earnings management, managers resort to the fraudulent accounting practices that are not in line with the existing accounting standards. They may create the non-existent revenue streams via recording fictitious sales to report higher sales or make up the fictitious inventory in order to show a lower cost of goods sold figure (it will decrease as fixed costs will be allocated to a larger number of produced items). However, while fraudulent accounting practices are usually investigated by the external auditors and government bodies, the scholars focus more on the legal earnings management.

1.2. Earnings management strategies and methods

As companies use earnings manipulation in different situations and for different purposes, patterns of earnings management differ. Scholars classify all patterns into four main earnings management strategies: income-increasing, income-decreasing, big bath and income smoothing (Scott 2009).

An income-increasing strategy is used to inflate the earnings figure. This strategy is usually used by managers at a particular moment, for example, before the IPO or SEO. Teoh, Welch and Wong (1998) showed that companies engage in income-increasing earnings management in the IPO year. Managers might have an incentive to window-dress financial statements in order to get a higher stock market valuation and raise more capital for the firm during an equity offering: buyers, driven by high earnings figure, could “pay too high a price”. Cohen and Zarowin (2010) also demonstrated that managers engage in income-increasing earnings management before seasoned equity offerings.

An income-decreasing strategy, by contrast, leads to a decrease in reported earnings. Managers may want to decrease earnings in order to get access to government subsidies. Jiang et al. (2018) reported a significantly positive association between the level of the downward earnings management and the receipt of subsidies. Both income-decreasing and income-increasing strategies are used by managers who aim to meet analysts’ forecasts. According to Burgstahler and Eames (2006), managers try to eliminate both positive and negative earnings surprises. In case earnings exceed figures in analysts’ forecasts, companies may manage earnings downward. Managers also manipulate earnings downwards in case they have already achieved a maximum bonus (Holthausen, Larcker, and Sloan 1995). The idea is that the understated earnings in one time period can increase earnings figures in the subsequent time periods.

A “big bath” strategy implies that managers charge significant non-recurring items to income in periods when earnings are already depressed (Jordan and Clark 2015). The motivation behind that is that managers have “little to win” in the loss period and can benefit from the opportunity to expense as many accruals as they can in the bad period, as the earnings will be higher in the future. Big bath strategy is often used in the CEO or management transition periods. For example, Nieken and Sliwka (2015) demonstrate that outgoing managers often shift earnings forward (income-increasing strategy), while the new managers tend to take a big bath in the first year in the office. This might be connected with the strive of the new management to increase its credibility in the eyes of shareholders.

While three aforementioned strategies are short-term in their nature, income smoothing is the only long-term strategy of earnings management. Under income smoothing, managers strive

to report more stable earnings over the periods. Managers have several incentives to smooth earnings. First, stable earnings are more desirable by the stock markets, as they indicate a lower level of riskiness of an investment. Therefore, by utilizing income smoothing strategy, managers can influence the value of the firm. Moreover, variable earnings make it difficult to establish plans and budgets for the future and control their fulfillment. The desire of management to dampen earnings fluctuations has been demonstrated by the survey of Graham, Harvey and Rajgopal (2005), where 96.9% of respondents indicated they prefer to smooth income. The widespread use of income smoothing strategy was also shown in a variety of studies, for instance, (Beidleman 1973).

Researchers also distinguish between two main types of earnings management. Accrual-based earnings management (AEM) is achieved by changing the accounting methods or estimates used when presenting a given transaction in the financial statements (Zang 2012). Accrual-based earnings management does not alter the underlying transactions, with all the manipulation being conducted in the reporting only. Real earnings management (REM), by contrast, implies changing the timing or structure of operating, investing or financial decisions in an effort to impact the outputs of the accounting system (Gunny 2010). One of the key differences between the two earnings management techniques consists in the timing of their utilization. While accrual-based earnings management is performed after the transaction is over and can be used after the end of the accounting period, real earnings management can be used only during the year, as it alters the execution of the real transaction.

Until 2000s, most scholars focused their attention on the accrual-based manipulations. The most widely used model for measurement of accrual-based earnings management was introduced in the study of Jones (1991). The author's approach is based on the determination of the normal portion of accruals that are adequate for the characteristics of the company's performance. Normal accruals arise as a result of company's operations and they are impossible to avoid: a typical firm usually has, say, a certain amount of accounts receivable at the end of each year, which means that the revenue is already recognized while the cash flow is expected to come in the next period.

The normal accruals are modelled via the company's size measured by total assets, the change in company's revenues and the amount of property, plant and equipment on the company's balance sheet. The resulting normal accruals are then compared to the actual figure, and the difference between them is called discretionary (or abnormal) accruals. This indicator is used as proxy for earnings management: discretionary accruals are connected with the managerial judgement and therefore can be artificially inflated or decreased by managers. Jones (1991) applied the model to find evidence that companies may decrease their earnings during import relief

investigation. Later, the Jones model was also used by many researchers, for example, in (Teoh, Welch, and Wong 1998) or (Zang, 2012).

Many studies focused on specific accruals that are prone to manipulations. One example of such specific accrual is the provision for bad debts. According to the existing accounting standards, net accounts receivable should indicate the cash flow that managers believe they will get from the clients in the future. Thus, using the managerial judgement, insiders can decide on their own whether a provision for bad debts should be created for any certain client. The provision for bad debts appears in the P&L and influences the resulting earnings figure. McNichols and Wilson (1988) showed that U.S. firms use the provision for bad debts to move earnings up- and downward and keep the resulting figures stable (income-smoothing strategy). Jackson, Wilcox and Strong (2002) also reported that the bad debts allowance is understated by managers of the firms in the period prior to the IPO year.

Another issue connected with the fair value estimation is the recognition of the asset impairment loss. As with the bad debts provision, asset write-offs can be used at a particular point of time in order to get the necessary financial results. Many studies found that the use of the asset impairment charge was linked to the issue of earnings management. Some researchers suggested the connection of asset write-offs and big bath strategy (Jordan and Clark 2015), while the others posited that asset impairment charges are used for income smoothing (Andrews 2012).

One more example of the accrual-based earnings management was found by Markarian, Pozza and Prencipe (2008) who studied the capitalization of research and development costs on the sample of Italian companies. The decision on capitalization or expense of R&D costs affects the resulting earnings indicator and often depends on managerial judgement. In the paper, the authors demonstrate that companies may make this decision in line with the income-smoothing strategy.

Recent research emphasizes that managers also use real earnings management in order to achieve the desired earnings figure. The survey of Graham, Harvey and Rajgopal (2005) showed that 80% of the managers would decrease the discretionary part of R&D or advertising expense in order to meet an earnings target. Moreover, 55% of the respondents admitted they are ready for a sacrifice in company's value that could help them reach a specific earnings figure. In other words, managers resort to real earnings management, even if it implies a need to burn a chunk of the company's future cash flows.

One of the most popular models for measuring the normal component of cost of goods sold, production costs and inventories was first applied in (Roychowdhury 2006). All the three items are modelled via lagged changes in company's sales. As with accruals, abnormal, or

discretionary component of these items is a proxy for real earnings management. In the paper, the author demonstrated that overproduction to decrease the cost of goods sold, as well as the reduction in discretionary expenditures, helps managers to improve the reported margins and consequently earnings.

Many authors have also researched the reason for the choice of one or another earnings management technique. Zang (2012) showed that real earnings management is used in times of the tightened scrutiny of the regulators, when the number of opportunities for the accrual-based manipulations is constrained. Cohen, Dey and Lys (2008) report that firms resorted to real earnings management more often in the period after the corporate scandals of Enron and WorldCom in the 2000s. Gunny (2010) also confirms that accrual-based earnings management is more likely to be detected by the regulators than changes to real transactions. Real earnings management can also be preferred when possibilities for accrual-based manipulations are constrained, either due to the wide use in the previous years or because of the nature of the company's operations. By contrast, accrual-based techniques may be preferred as they are applied after the fiscal year, when managers are more certain about the figures they would like to report to the outside stakeholders. Firms also engage less in real earnings management when it is more costly for them, for example, due to their adverse competitive position in the industry. In this case, cutting on R&D or marketing expenses can lead to the competitive disadvantage that may even be fatal for the firm's existence. Finally, Zang (2012) also reported a substitutive nature of the two earnings management techniques; there is a negative relationship between the extent of usage of AEM and REM.

1.3. Consequences of earnings management

Researchers also discuss how problematic an issue of earnings management actually is. Some scholars emphasize the visibility of earnings management and suggest that it can be observable without significant cost by reasonably sophisticated market participants who can easily access all necessary information and data. If that is really the case, then the observers can make adjustments to the earnings figures they get in order to obtain the "real" numbers (Dechow and Skinner 2000).

Some studies also highlight the signaling nature of earnings management, suggesting that managers who manipulate earnings engage in sending certain signals about the company's future, rather than just demonstrate opportunistic behavior. Gunny (2010) researches a sample of firms who are just meeting their earnings benchmarks — which suggests that their earnings might be artificially inflated in order to avoid negative reaction of the stock market. The author's findings indicate that the use of manipulations to meet earnings benchmarks is positively associated with future performance. It suggests that managers resort to earnings management to transmit their

positive expectations about the firm's future performance to the market participants or to attain certain benefits that allow this positive performance in the next quarters or years.

However, a broader line of research demonstrates that, at least in some cases, earnings management at a specific point of time may have long-lasting negative consequences. First, it is important to emphasize that the short-term earnings management strategies impact the financial statements of the company in several future periods. The companies that opt for income-increasing strategy and demonstrate a better performance in a particular year have to show poorer performance subsequently because of the reversal of accruals effect (Loukyanova, Nikulin, and Zinchenko 2017). The companies that understate, for instance, the provision for bad debts in one period, have to overstate it in the next periods to offset the difference between actual and reported figures. Therefore, income-increasing strategy in one year results in a decrease of the reported earnings in the next years.

The implications of earnings management affect external stakeholders of the company. For example, governments may face the problem of collecting less tax revenue because of earnings management. As it was shown in (Othman and Zethal 2006), French firms engage in earnings management in order to lower their effective tax rate. The authors also highlight that the level to which earnings can be managed in order to influence the tax rate depends on the peculiarities of legislation: for example, French firms are more likely to engage in earnings management to decrease taxes than their Canadian counterparts, because French accounting regulation is impacted significantly by the country's tax system.

One of the most researched areas of earnings management consequences is the post-IPO stock underperformance for the companies that engage in earnings manipulations. Teoh, Welch and Wong (1998) conclude that the companies that use aggressive earnings management and inflate their earnings in the IPO year show a 15 to 30% poorer performance on the stock market than their conservative counterparts in three years perspective. Investors that buy shares of such companies during the IPO suffer from managers' actions which result in the significant losses in the long run. The authors recommend investors to adjust for earnings management and use the abnormal accruals indicator to discriminate between equity issuers.

Companies' operating performance may also be negatively related to the earnings management activities. Many papers show the effect of real earnings management on the subsequent performance. For example, Cupertino, Martinez and da Costa (2017) document a negative influence of the real activities manipulation on the return on assets (ROA) of the firm in the next year. For instance, this may be due to the missed investment opportunities, the postponement of R&D or marketing investment. The results have to be taken into account by

investors who often compare the companies in the same industry by ROA indicator. The authors suggest them controlling for earnings manipulations before making an investment decision.

A study of Rodriguez-Ariza, Martinez-Ferrero and Bermejo-Sanchez (2016) highlights the effect earnings management has on corporate reputation. The authors document a negative association between the corporate reputation, which is measured via perceptions of the market and outside stakeholders, and the discretionary accruals. They suggest that earnings management practices impact investors, employees, customers and local communities. However, the researchers also indicate that this effect is less pronounced for family firms or firms with the concentrated ownership. The authors suggest that family firms owners are more concerned with reputation and always work on its protection.

The consequences of earnings management may become exceptionally negative in case the manipulations are revealed. Feroz, Park and Pastena (1991) showed in their paper that the first announcement about a revealed fact of earnings management leads, on average, to the 13% fall in the share price of the company. The market also reacts negatively even in case of the news that regulators are investigating the company's financial reporting. These results are also confirmed in the study of Dechow, Sloan and Sweeney (1996). The authors also document a drop in analyst following and the increase in the variance of analysts' forecasts. Moreover, the manipulators also witness an increase in bid-ask spread for their shares. Finally, the cost of capital also increases for the firms known to be earnings manipulators. In general, the findings, therefore, once again indicate that investors and shareholders may incur heavy losses because of earnings management practices.

Perhaps the most famous instance of the revealed earnings management is Enron case. The company was systematically inflating its profits, applying mainly illegal earnings management and violating the accounting standards (fraudulent accounting). For instance, Enron created special purpose entities that absorbed the costs that should have been in reality shown on Enron financial statements (Healy and Palepu 2003). When the manipulations were revealed in 2002, the share price plummeted, and the company was forced to bankruptcy, while some of its top executives were arrested. Later it was shown by Martin and Sayrak (2003) that earnings management was one of the main drivers of the overvaluation of Enron stocks prior to the corporate scandal. The Enron case is an example of the most drastic consequences of earnings management for all stakeholders (investors, employees, regulators); however, it is important to once again emphasize that the company in this case engaged in illegal earnings manipulation practices.

1.4. Restraining earnings management: the role of the board of directors and its audit committee

As there is evidence that opportunistic earnings management harms stockholders and investors, the prior researchers have also examined the mechanisms that could be used to restrain it. In particular, corporate governance system has received a significant attention, as it is usually conceptualized as a deterrent to the managerial self-interest. Corporate governance mechanisms provide shareholders assurance that managers will strive to achieve outcomes that are in line with the shareholders' interests (Daily, Dalton, and Canella 2003).

Broadly, corporate governance mechanisms are introduced in the company in order to alleviate an existing agency problem. Agency problem, as it is put by (Jensen and Meckling 1976), consists in inducing an agent to act in the best interest of a principal, i.e. to act to maximize the principal's welfare. At a company, managers act as agents that were employed by shareholders (principals) in order to maximize the return on investment. The agency conflict arises with the separation of ownership and control: managers may behave opportunistically by making decisions that are not following the value maximization principle (Tangjitprom 2013).

It is evident that, as long as the owner of the company runs the business him- or herself, the agency problem does not exist at all: in this case, an owner acts both as a manager and a shareholder. However, nowadays, the ownership dispersion has increased dramatically, and most large firms are controlled not by its founders, but by a multitude of investors who hold diversified portfolios. Moreover, the rising popularity of portfolio investment strategies has resulted in most public companies being owned by a variety of minority shareholders that hold small stakes in many firms and do not possess enough resources to effectively control the management of all those companies. The rise of institutional ownership in the last years also brought into the spotlight the issue of ownership engagement: institutional investors, such as exchange-traded funds or hedge funds, often act as "intermediary investors", and the actual individuals behind them very often lack time or opportunity to engage in oversight and control (Çelik and Isaksson 2014).

Thus, in a modern public company, the interests of a manager are often different from those of a shareholder: while the former aims at maximizing short-term returns and bonuses, the latter is more interested in a long-term growth of the firm's market capitalization. Moreover, insiders can use their control of the firm's operations to obtain private control benefits that could range from the perquisite consumption to the transfer of firm assets to another firm owned by insiders (Leuz, Nanda, and Wysocki 2003). In other words, outsiders, including shareholders, suffer from the information asymmetry that creates for insiders (managers) a chance to behave opportunistically. This makes the corporate governance mechanisms, which are designed to align

the interests of the management with those of shareholders and prevent insiders from obtaining private gain, particularly relevant.

The aforementioned principal-agent conflict is especially relevant for developed economies, where the separation of ownership and control is ubiquitous and the institutional context guarantees the enforcement of agency contracts (Peng 2003). For the emerging economies (and Russia), however, previous researchers have questioned the relevance of the principal-agent problematic. Emerging economies' firms are often characterized by the concentration of ownership; moreover, the institutions are still at the early stage of development on many emerging markets (Morck, Wolfenzon, and Yeung 2005). In Russia, on average, the level of ownership concentration is also higher than in other European countries (Dolgopyatova 2016).

Therefore, the new perspective on corporate governance, the principal-principal model, was developed for the emerging markets. The principal-principal model focuses on the relationships between the controlling shareholder and the minority shareholders: concentration of ownership leads to the firms being often controlled by a single shareholder, while the weak governance structure and the absence of high-quality institutions causes principal-principal conflicts, where the rights of minority shareholders are often neglected (Young et al. 2008). Nevertheless, the principal-principal setting does not eliminate the problem of information asymmetry; it can in some cases change the structure of insiders and outsiders of the firm — for example, if the controlling shareholders is given more access to the internal data. In this context, the high-quality corporate governance mechanisms should serve to protect the interests of the minority shareholders of the company.

Corporate governance mechanisms are usually divided into the external and internal ones (Walsh and Seward 1990). Internal mechanisms consist of inner functions and processes that control the company's management. They include the board of directors (and its structure), the internal audit system and managers' remuneration (that should encourage managers to act in shareholders' interests). By contrast, the market for corporate control, the labour market for executives, the IPO market and the corporate governance legislation comprise the external corporate governance mechanisms. The whole corporate governance framework, adapted from (Smirnov 2018), is shown on Figure 1.

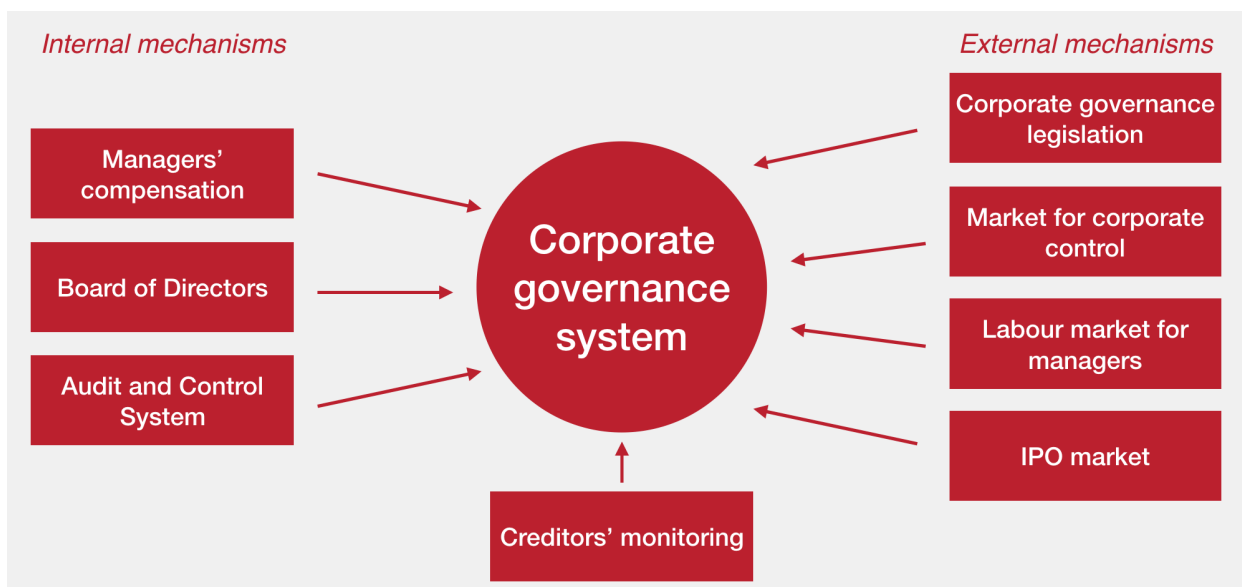


Figure 1. Corporate governance framework (adapted from (Smirnov 2018))

Davidson, Goodwin-Stewart and Kent (2005) outline two functions of the corporate governance mechanisms in relation to the financial reporting process. First, those in charge of corporate governance should ensure that the resulting financial statements are in line with the existing accounting regulations. Second, they must maintain the credibility of those statements. While the first function implies the control for accounting errors and fraudulent accounting (illegal earnings management), the second function also refers to the prevention of legal earnings management that could harm shareholders.

Financial reporting process is controlled by the internal corporate governance mechanisms, as they are in charge of ensuring the credibility of financial statements inside the company, before the information is published for the use of external stakeholders. Internally, the board of directors functions in order to minimize costs that arise from the separation of ownership and control. While the board delegates most decision-making activities to the top management, it still has an authority for an internal control and acts as an important mechanism to check whether managerial decisions are in line with other stakeholders' interests (Fama and Jensen 1983). The board has the right to ratify important decisions, select top managers and determine the level of their compensation (Beasley 1996).

While the board plays a crucial role in the quality of checks and controls performed, it is also important to emphasize that the board delegates some of its oversight duties to other corporate governance mechanisms. In most companies, the audit committee of the board of directors is formed to control financial statements preparation. During the 1980-2000s, the audit committees were largely promoted and subsequently established by many listed corporations (Turley and Zaman 2004). Today, the establishment of an audit committee is mandatory for some listed

companies; for example, in the U.S., NYSE and NASDAQ mandate the listed firms to have an audit committee of at least three members (Klein 2002). The importance of the audit committee has increased after the corporate scandals, such as Enron or WorldCom. It is these scandals that triggered the legislative and corporate reforms that strengthened the role of the audit committee in relation to the financial monitoring among other corporate governance instruments (Bruynseels and Cardinaels 2014). The latest literature sees the audit committee as the key corporate governance mechanism when it comes to the assessment of earnings quality (Davidson, Xie, and Xu 2004).

Overall, an audit committee serves as a watchdog for financial reporting quality and the audit process (Bruynseels and Cardinaels 2014). Historically, audit committees' main role consisted in ensuring the independence of an external auditor. Today, audit committees influence a number of factors relating to the functioning of the external and internal audit. For instance, the choice of an external auditor is often made by the audit committee members. Furthermore, audit committees can generally facilitate the relationships between directors, investors and auditors (Turley and Zaman 2004).

For the members of the audit committee, the motivation for high-quality monitoring, again, lies in the reputational capital preservation (Abbott, Parker, and Peters 2004). The status of the audit committee member may also increase a director's reputation regarding his or her financial monitoring abilities; however, it also aggravates the possible reputational damage in case some instances of financial fraud is detected. This factor adds another incentive for the audit committee members to perform high-quality monitoring (Abbott and Parker 2000).

In some companies, internal monitoring of the financial reporting is also performed by the internal audit function. The importance of an internal audit function as a corporate governance tool is explicitly confirmed by the U.S. regulators. Internal auditors provide a variety of services to the board of directors as well as top management team, mainly auditing financial reports and processes (Prawitt, Smith, and Wood 2009). An important monitoring role that auditors from an internal audit function occupy was spotlighted in 2002, when Cynthia Cooper, an internal auditor of WorldCom, became the Time Person of the Year for the discovery of large-scale financial fraud in her company (WorldCom scandal eventually became one of the largest corporate scandals of the 2000s in the U.S.; for more information, see (Ripley 2008)).

Finally, all public companies employ an external auditor that assesses the quality of the information in financial statements and the compliance to the existing regulation. Auditing is considered a useful form of monitoring that might decrease agency costs. The value of auditing lies in its ability to reduce the misreporting in the financial statements (Becker et al. 1998). The

quality of external audit, however, may differ with the quality of an audit firm. High-quality auditors are generally more likely to spot errors in financial reporting and are less willing to accept dubious accounting choices (Becker et al. 1998). The most commonly used proxy for the quality of an audit firm is its size: scholars hypothesize that four largest international firms, the Big Four, that currently account for a large proportion of all audits performed worldwide are more effective due to their size, reputation and accumulated expertise. In other words, these companies are better equipped to detect earnings management and have more incentive not to waive the spotted manipulations, as they have more to lose. The choice of the external auditor was found to be negatively associated with the extent of earnings management in some previous studies (e.g. see Alzoubi 2016).

1.5. Board and audit committee composition and earnings management. Hypotheses development

Scholars have been analyzing the characteristics of the board of directors and the audit committee that could impact its effectiveness for a long time. The earlier studies focused on the illegal earnings management that implies the occurrence of the financial statements fraud (Beasley 1996; Dechow, Sloan, and Sweeney 1996). More recent research looked into the legal earnings management, analyzing the association between board and audit committee characteristics and the level of discretionary (abnormal) accruals (Klein 2002; Peasnell, Pope, and Young 2005; Ferris and Liao 2019).

Many latest studies highlight the role of the audit committee as the key mechanism that has the responsibility for the production and the assessment of financial statements. Several studies focus solely on the audit committee composition (for example, (Badolato, Donelson, and Ege 2014)). However, the presence of the audit committee does not absolve the board from the responsibilities related to financial information (Peasnell, Pope, and Young 2005). When making investment decisions or reviewing operating results, the board is relying on the data from the financial statements, prepared for either internal or external use. The properly functioning board is interested in getting the reliable data in order to make informed decisions that are in line with the shareholders' interests. Therefore, this study will investigate the attributes of both board of directors and audit committee. It will analyze the presence of the audit committee, the independence and the activity of both board and the audit committee, the busyness of directors and the expertise of the audit committee members.

In Russia, the requirements to the structure of the board and the presence and composition of the audit committee come from, first, the Central Bank of Russia and, second, from the stock exchange. The Central Bank has issued the latest version of the new Code of the Corporate

Governance in 2014. The Code has been devised to incorporate the best practices of corporate governance and takes into account the peculiarities of Russian businesses. One of the objectives of the code is to improve the effectiveness of, first, management bodies of corporates and, second, control over those bodies. While the Code's guidelines present just a recommendation for the companies, the Central Bank reported in 2018 that 75% of national public firms had implemented the outlined principles and mechanisms as of 2017 (Bank of Russia 2018).

As for the requirements of Moscow Exchange, they are different for the three existing listing levels (Moscow Exchange 2020). For instance, the first two levels of listing require the firm to have an established and functioning audit committee (note that this is a requirement, not a recommendation). For the third level of listing, however, there is no such a requirement. The requirements for independent directors also differ a lot between listing levels: the firms of the third level of listing are not obliged to have an independent director on board.

Audit committee presence

The audit committee, as it was already stressed, contributes to the quality of financial monitoring of corporate governance mechanisms. The presence of the audit committee can theoretically influence the financial reporting process in two ways (Piot and Janin 2007). First, the committee directly controls key accounting choices and thus prevents manipulations. Second, its presence ensures that all irregularities found by external auditors will be reported or fixed. Thus, it is reasonable to theorize that the presence of the audit committee might help to curb earnings management.

The presence of the audit committee was one of the first characteristics of the corporate governance that was investigated as a potential restraining factor for earnings management. The first studies that considered that link were mainly focused on the prevention of fraudulent actions of managers (*illegal* earnings management). Dechow, Sloan and Sweeney (1996) analyzed the firms subject to accounting enforcement actions by the Securities and Exchange Commission and reported that no-fraud firms are significantly more likely to have an audit committee. This study provided one of the first pieces of evidence in favour of audit committees — even before the regulators tightened the rules regarding the audit committee's composition and highlighted its principal role in ensuring the quality of financial reporting.

Several later studies confirmed that finding for *legal* earnings management. Piot and Janin (2007) investigate the relationship between earnings management and corporate governance on the sample of French firms. The authors showed that the presence of an audit committee negatively impacts upward earnings management. Similarly, Baxter and Cotter (2009) analyzed the sample

of Australian firms and found that the establishment of the audit committee is followed by a decrease in the level of discretionary accruals, a proxy for accrual-based earnings management.

By contrast, no link is found between the presence of an audit committee and the magnitude of earnings management for the U.K. companies (Peasnell, Pope, and Young 2005). The authors suggest that the absence of the effect of the audit committee's presence may be connected with the peculiarities of the sample: most of the analyzed UK firms already had an established audit committee.

In this study, in accordance with theoretical background and the majority of extant studies, it is hypothesized that the presence of the audit committee can restrain earnings management practices. It is also perhaps important to highlight that many Russian firms are still only planning to establish the audit committee in the future. This provides a field for analysis that is absent in the other markets where the presence of the audit committee is mandatory for all listed companies.

Hypothesis 1: Russian firms where the audit committee is present demonstrate a lower level of earnings management.

Independence of the board and the audit committee

In order to be able to gather and interpret the information from inside the company, boards often include one or several members of the top management team (Fama and Jensen 1983). Those top managers reinforce oversight capabilities of the board by providing relevant information and internal expertise. As Williamson (1984) puts it, insiders enjoy huge informational advantages because of their full-time status. Therefore, insider board members can be more influential than outsiders. However, when insiders get a majority on the board of directors, they can easily dominate and opt for decisions that are against shareholders' interests. In fact, boards dominated by insiders do not fulfil the goal of separation of decision-making and decision control.

Thus, Fama and Jensen (1983) argue that effective separation of decision-making and control can occur only if *outside* directors are present on the board. Outside directors should act as arbiters in case of major disagreements between internal managers and participate in decision-making on the topics which involve a serious agency risk, for instance, the level of top management compensation. The incentive of outside directors not to collude with internal managers might be the need to maintain credibility and reputation: it is often the case that outside directors have more than one directorship or work as top managers in the other company or top-level decision makers in some other complex organization (e.g. government structure). Outside directors may also be more objective in evaluating costs and benefits of any initiative (Byrd and Hickman 1992).

Baysinger and Butler (1985) broadly distinguished between three types of directors on board, namely insiders, affiliated outsiders and *independent* directors. Independent directors should not be employed by the firm or have any strong or economic dependence on its management. According to the authors, independent directors comprise a monitoring component of the board, while affiliated outsiders are incapable of providing the fully independent critical appraisal of the top managers' actions. Many studies have demonstrated that independent board members increase the effectiveness of corporate governance (see, for example, (Byrd and Hickman 1992)). Today, most markets have established the standards that codify the minimum number of independent directors on the board for listed firms and the requirements that are used to determine whether any specific board member can be recognized as independent.

As with the board of directors, independence is also an important characteristic of the audit committee. Carcello and Neal (2000) suggest that audit committees may not be able to perform "adequately" if they are not independent from management: personal or economic dependence can in theory greatly affect the quality of monitoring, which is the key function of the audit committee. In many countries, the independence of all members of the audit committee is required. For instance, it is the requirement of the Sarbanes-Oxley Act, implemented in the U.S. in 2002 after Enron and WorldCom scandals (Bedard, Chtourou, and Courteau 2004). Independence of the audit committee also comes as a listing requirement on some stock exchanges, e.g. NASDAQ or NYSE (the criteria for independence, however, may differ).

There are many previous studies that analyzed the link between the presence of the independent directors on board and in the audit committee and the level of earnings management. Again, as with the presence of the audit committee, the first existing studies looked into the mechanisms that prevent financial fraud (*illegal* earnings management). Beasley (1996) investigated a sample of 150 firms that included 75 firms that engaged in fraud (which had been revealed by the Securities and Exchange Commission of the U.S.) and their 75 no-fraud matches. The number of outsiders on board was considered as one of the factors which could reduce the likelihood of the financial fraud. In this study, outside directors were defined as those who were not employed by the company. The findings from the logit model indicate that the larger percentage of outside directors on board indeed reduces the likelihood of the firm engaging in fraudulent accounting activities.

In a similar (and previously mentioned) study, Dechow, Sloan and Sweeney (1996) concluded that firms that manipulate earnings in an illegal way are more likely to have a board of directors dominated by management. This finding is consistent with Beasley (1996): the authors approach the same relationship from a different angle, measuring the percentage of insiders on

board rather than the proportion of outsiders. According to the scholars, the dominance of insiders might curb the control powers of the board, thus providing more opportunities for managers to disguise real earnings figures.

The association between the presence of independent directors on board and legal earnings management was first studied in (Klein 2002). The author analyzed the large sample of S&P 500 firms and studied the effect of the independence of both the board of directors and the audit committee on legal earnings management. Independence of the board (and the audit committee) was measured by the percentage of the outside directors in it. The researcher found a significant negative association between the independence of both board and audit committee and the level of abnormal accruals, which is the proxy for accrual-based earnings management. It suggests that the effectiveness of the board increases with the rise of the proportion of independent directors in it. Moreover, the negative relationship is especially pronounced for the firms where the percentage of independent board or audit committee members is lower than 50%. However, the author also showed that no significant correlation exists between earnings management and fully independent audit committees, which might mean that there is no need for the regulators to introduce a stringent 100% independence requirement.

The later research on the U.S. companies mostly demonstrated similar findings. For instance, the study of Xie, Davidson and DaDalt (2003) confirmed the findings of Klein (2002) about the association between board and audit committee independence and accrual-based earnings management. The study of Ghosh, Marra and Moon (2010), however, showed a different result and reported the absence of link between earnings management and board or audit committee independence. One difference between the paper of Ghosh, Marra and Moon (2010) and previous studies lies the timing. While the previously described studies analyzed the pre-SOX (Sarbanes-Oxley Act) setting, when the regulatory requirements towards, for example, audit committees, were far less stringent, Ghosh, Marra and Moon (2010) look at the sample *before and after* SOX introduction. The authors posit that the lack of variation in board and audit committee compositions because of the introduction of independence requirements may have caused the insignificance of both board and audit committee independence variables.

The studies of other markets produced mixed results. Davidson, Goodwin-Stewart and Kent (2005) researched the connection between earnings management and board and audit committee characteristics on a sample of Australian firms. Their findings indicate the presence of negative association between the percentage of non-executive directors on the board and on the audit committee and the level of discretionary accruals. Peasnell, Pope and Young (2005) showed the same result for board independence on a sample of companies from the U.K. Similarly, the

study of the firms listed in Hong Kong, performed by Jaggi, Leung and Gul (2009), documented that board independence helps to curb earnings management. In China, Chen and Zhang (2014) also find a negative association between the extent of earnings management and both board and audit committee independence. A significant negative relationship between earnings management and board and audit committee independence was also reported for Jordan (Alzoubi 2016).

By contrast, Park and Shin (2004) find no evidence for the association between the proportion of outside directors on the board and accrual-based earnings management for a sample of Canadian firms. The authors suggest several possible reasons for that. First, the market for outside directors in Canada might have been less developed than in the U.S. at that point of time, which might mean that the outside directors lacked proper incentive to provide effective monitoring. Second, the researchers report that the Canadian boards are more likely to be dominated by majority shareholders, which complicates the task of outside directors. Third, the authors suggest that the inclusion of the variable that could take into account financial sophistication of the outside directors could also impact the results (in the additional analysis, it is demonstrated that the directors who are officers of financial intermediaries and thus possess financial expertise actually help to curb earnings management). What could be added to those possible explanations of the insignificant results is the fact that the researchers classified as outside directors all board members that had not been directly employed by the company or had not been the family members of the controlling shareholder. Today's regulatory requirements used to define the independence of directors, are a lot more stringent.

The studies for France (Piot and Janin 2007) and Spain (Sierra García, Ruiz Barbadillo, and Orta Pérez 2012) also found no relationship between the presence of independent directors both on board and in the audit committee and abnormal accruals. Piot and Janin (2007) suggest that the peculiarities of the regulation in France could be the reason for the insignificance of that relationship. Sierra García, Ruiz Barbadillo and Orta Pérez (2012) suggest that a possible explanation of the absence of the link between audit committee independence and earnings management for Spanish firms could be the fact that most companies in the sample already established independent committees (the authors considered a committee independent in case of the presence of at least one independent member in it). The same suggestion was also put forward by Ghosh, Marra and Moon (2010) in their study of the U.S. firms.

Taking into account all previous research, it is hypothesized in this study that the presence of the independent directors both on board and in the audit committee helps to curb earnings management. The control function of the independent directors is highlighted by theoretical models and was previously demonstrated by many studies. Moreover, Russian companies are still

adjusting their corporate governance mechanisms: many of them still have no independent directors in their boards or audit committees. Therefore, the effect shown by Ghosh, Marra and Moon (2010) or Sierra García, Ruiz Barbadillo and Orta Pérez (2012), where most companies in the sample already possessed an independent audit committee, is unlikely for Russia.

Hypothesis 2: Russian firms where the independent directors are present on board demonstrate a lower level of earnings management.

Hypothesis 3: Russian firms where the independent directors are present in the audit committee demonstrate a lower level of earnings management.

Activity of the board and the audit committee

Another characteristic of both the board and the audit committee is their size and the level of their activity. Larger boards and audit committees might be more likely to have more resources for oversight. Plus, larger boards and audit committees are more likely to include directors with more diverse expertise (Choi, Jeon, and Park 2004). The same applies to the audit committee activity: the “dormant committee” — the one that meets, say, twice a year — is less likely to exercise an efficient control over financial reporting than the actively working committee (Baxter and Cotter 2009).

The empirical evidence on the association between legal earnings management and the size of the board and the audit committee is mixed. In the U.S., Ghosh, Marra and Moon (2010) reported the negative relationship between discretionary accruals and both board and audit committee size. The evidence of the researchers suggests that larger boards and audit committees indeed seem to be more effective monitors of financial reporting quality. Sierra García, Ruiz Barbadillo and Orta Pérez (2012) show the same negative association between the size of the audit committee and abnormal accruals for the sample of Spanish companies.

However, there are also studies that document no link between the board and/or audit committee size and the level of earnings management. This is the case in, for example, the study of Bedard, Chtourou and Courteau (2004), which (interestingly) is also conducted on the U.S. pre-SOX sample. No association between the audit committee size and the level of earnings management was also found for Australian companies (Baxter and Cotter 2009). Even more interestingly, for Malaysia, the study of Rashidah and Fairuzana (2006) documented the significant *positive* association between the board size and earnings management. It might mean that in Malaysia, larger boards are less efficient in restraining earnings management practices. Moreover, the positive relationship between the audit committee size and earnings management was also shown in (Baccouche, Hadriche, and Omri 2013) for France: the authors mentioned problems with

communication and difficulties with sharing responsibility that may hamper the oversight capabilities of large committees.

As for the number of meetings of the audit committee, again, several studies reported the negative link that is implied by the theory that highlights the monitoring role of the committee. One of the first U.S. studies that introduced the number of meetings variable was (Xie, Davidson, and DaDalt 2003). The authors found that the frequency of audit committee meetings is negatively associated with the level of earnings management; in other words, firms where board and audit committee meet more often are less likely to engage in earnings management. Gonzalez and Garcia-Meca (2014) showed the same connection in their study of the sample of Latin American firms.

At the same time, there are studies that found the absence of link between the number of audit committee meetings and the level of earnings management, for example, (Bedard, Chtourou, and Courteau 2004). Moreover, Ghosh, Marra and Moon (2010) found a *positive* association between the number of meetings of the committee and earnings management, which suggests the reactive nature of the increase in the number of the audit committee meetings. Interestingly, the three studies on the U.S. market (Xie, Davidson, and DaDalt 2003; Bedard, Chtourou, and Courteau 2004; Ghosh, Marra, and Moon 2010) produced completely different results for the association between the number of meetings of the audit committee and the extent of earnings manipulations. This might suggest that the results are very context-dependent: the researchers analyzed different time periods with different legislation in place.

The evidence regarding the activity of the board and the audit committee is thus mixed. Again, this study formulates the hypotheses from the position in favour of monitoring: it is hypothesized that in Russia, the size of the board, the size of the audit committee and the number of meetings are negatively related to earnings management:

Hypothesis 4: for Russian firms, there is a negative association between the size of the board of directors and the level of earnings management.

Hypothesis 5: for Russian firms, there is a negative association between the size of the audit committee and the level of earnings management.

Hypothesis 6: for Russian firms, there is a negative association between the annual number of meetings of the audit committee members and the level of earnings management.

Financial expertise of the audit committee members

Another characteristic of the audit committee is the presence of the members who possess financial expertise. Directors with the financial expertise should provide better monitoring: the

issues they deal with are often “of technical nature” and require specific knowledge (Davidson, Xie, and Xu 2004). Therefore, only the directors that possess a certain level of financial sophistication will be able to independently assess the quality of financial reporting and make informed decisions (Baxter and Cotter 2009). The study of McDaniel, Martin and Maines (2002) indicates that financial experts are more likely to evaluate the characteristics that underlie reporting quality than financial literates¹. Furthermore, while financial literates focus on reporting treatments that are discussed in the business press, financial experts identify less prominent treatments that are often recurring in their nature. This evidence supports the idea that the presence of financial experts in the audit committee might contribute to the quality of the financial oversight.

The U.S. Securities and Exchange Commission now requires public firms to annually disclose whether at least one “financial expert” is present in the audit committee. If there is no such member in the committee, the company should explain why it is the case (Deloitte 2018). For Russia, there is no such a requirement at the moment. There is also evidence that stock markets also react positively when it is announced that a new member with the financial expertise is added to the audit committee (Davidson, Xie, and Xu 2004).

The idea that simply having an audit committee may not be enough appeared in the late 1990s, and the survey of McMullen and Raghunandan (1996) was one of the first studies to highlight the idea of the financial expertise of the audit committee members. The authors examined 51 firms that experienced “financial reporting problems”. Their results suggested that only 6% of those firms had a Certified Public Accountant (CPA) in the audit committee — whereas their matches had a CPA in the committee in 25% of cases. It is important to stress that, as with other previously mentioned early studies, this paper deals with illegal earnings management: financial reporting problems imply that the firm had to either materially restate its quarterly earnings or was a subject to SEC enforcement actions.

Xie, Davidson and DaDalt (2003) introduced the idea of measuring the expertise of audit committee members in the literature that deals with legal earnings management. They classified audit committee members into specific groups based on their background. The results suggested that experienced outside directors from investment banks increase the monitoring ability of the audit committee. However, the presence of outside financial and legal members does not influence the level of earnings management.

¹ Financial literacy refers to the ability to read and understand fundamental financial statements. Financial expertise refers to “a higher level of financial reporting knowledge”. Financial expertise is related to the past employment experience in finance / accounting and / or professional certification in that field (McDaniel, Martin, and Maines 2002)

Bedard, Chtourou and Courteau (2004) drew on the previous findings and developed the concept of the expertise of the audit committee members that is needed in order to perform monitoring and control. They hypothesized that the presence of at least one member with the financial expertise improves the ability of the audit committee to constrain earnings manipulations. Unlike Xie, Davidson and DaDalt (2003), the researchers use only the term “financial expertise”: to classify as an expert, a person should have relevant finance or accounting experience or possess a professional certificate, such as CFA. The findings indicate that the relationship between the level of expertise and the level of earnings management is negative and statistically significant. The likelihood of aggressive earnings management is also lower for the companies with an audit committee where members possess expertise.

Financial experts in the audit committee were also found to help restraining earnings manipulations in other markets. Firms where members with the financial expertise were present in the audit committee were found less likely to engage in earnings management in China (Chen and Zhang 2014).

Taking into account all previous studies, it is hypothesized that the same association might exist for Russian firms:

Hypothesis 7: Russian firms where the members with the financial expertise are present in the audit committee demonstrate a lower level of earnings management.

Multiple directorships

The proliferation of the idea of independent directors also brought into spotlight the phenomenon of multiple directorships: many experienced independent directors started to perform monitoring for different companies at the same time. As it was previously said, multiple directorships provide additional incentive for a director to perform his or her duties effectively in order to preserve and accumulate reputation (Fama and Jensen 1983). Outside directorships might provide directors with expertise, visibility and contacts (Jiraporn, Singh, and Lee 2009).

However, it might also be the case that the director becomes too busy to effectively control all firms where he or she is present on the board (Core, Holthausen, and Larcker 1999). The disadvantages of the multiple directorships have also been highlighted in more recent studies where the researchers asked the legislators to impose a restriction on the number of other positions held by directors or audit committee members (Devos, Prevost, and Puthenpurackal 2009). Busyness of directors has also become an important phenomenon with multiple studies looking into this problem.

Bowen, Rajgopal and Venkatachalam (2008) presented one of the first pieces of evidence that busyness of directors is positively associated with the extent of earnings management (the study was conducted for the U.S. market). It suggests that, in terms of the issue of earnings management, the negative aspect of the directors having less time to ensure effective oversight is more important than the positive aspect of the same directors accumulating more expertise. Ferris and Liao (2019) focused their study solely on the busyness of directors, analyzing the cross-country sample that came from 46 countries (including Russia). The researchers also find a positive association between the number of other directorships of both board and audit committee members and the level of earnings manipulations. Furthermore, it is the busyness of audit committee members that has the greatest impact on earnings management.

Similar results were also obtained in a separate study of Baccouche, Hadriche and Omri (2013) that analyzed the sample of French listed companies. According to the authors, busy members of the audit committees devote less time for control and are also less able to attend the committee meetings, which decreases the level of their awareness of the issues the company is currently facing.

The findings supports the conjecture that multiple directorships actually increase the workload and deter directors and audit committee members from effective oversight. Therefore, in this study, it is also hypothesized that the busy directors may provide oversight that is less effective:

Hypothesis 8: for Russian firms, there is a positive association between the number of other directorships of the board members and the level of earnings management.

Hypothesis 9: for Russian firms, there is a positive association between the number of other directorships of the audit committee members and the level of earnings management.

1.6. Literature review conclusion and research gap

Earnings management has been studied a lot since 1970s, with legal earnings management receiving especially significant attention from scholars. Researchers classified two main types of earnings management (accrual-based and real earnings management), as well as four key strategies that managers pursue while manipulating earnings (income smoothing, income-increasing earnings management, income-decreasing earnings management, big bath). Settings when earnings management is often utilized, such as an IPO or government subsidies competitions, were also looked into.

Earnings management as a phenomenon is one of the manifestations of the agency problem. Managers as agents often pursue their own interests and not the interests of shareholders

(principals). The use of earnings management can result, for example, in the subsequent decrease of the market capitalization, which harms shareholders. Companies' operating performance can also worsen due to an adverse effect on the firm's reputation. Illegal earnings management can cause even more dire consequences: after it was revealed that managers of Enron engaged in fraudulent accounting, the company filed for bankruptcy, with the shareholders losing all their investments.

Corporate governance mechanisms are designed to alleviate the agency problem and therefore should theoretically restrain earnings management practices. The key internal corporate governance mechanisms, the board of directors and its audit committee, have a duty to monitor the financial reporting preparation and ensure that the published figures are credible. An important attribute of the board and the audit committee is the independence of its members: independent directors can provide a more objective oversight as they are not psychologically or economically dependent on management. The level of activity of the board or the audit committee might also play a role in the quality of monitoring. Theoretically, the directors who control the company's financials need to possess financial expertise in order to be able to exert effective monitoring. Finally, the busyness of directors is another phenomenon that may affect the quality of the monitoring: busy directors may have less time to analyze the financial statements and to oversee the process of their preparation.

While there is general consensus in the extant theoretical literature that boards and audit committees can help decrease the likelihood of earnings management, the empirical evidence on the efficiency of those mechanisms and their appropriate structure is still mixed. Even for the U.S., several existing studies provide contradictory evidence on the association between the extent of earnings management and the independence of both the board and the audit committee. It was also shown that the evidence differs from country to country, possibly due to cultural peculiarities, differences in legislation or institutional factors (Leuz, Nanda, and Wysocki 2003).

A limited number of scholars have analyzed the earnings management phenomenon in Russia. Most studies, however, look into the phenomenon of the illegal earnings management. No research so far has investigated the association between the characteristics of the board and the audit committee and the legal earnings management in Russian firms. This study aims at covering this research gap and looks at the characteristics of those corporate governance mechanisms in Russia. The following research questions are covered:

- How does the composition of the board of directors (e.g. presence of the independent directors on board) influence the level of the accrual-based earnings management of Russian firms?

- How does the presence and composition of the audit committee (e.g. its size) impact the level of the accrual-based earnings management of Russian firms?

The study focuses solely on the accrual-based earnings management which has received much more attention in the literature than the real earnings management. The difficulty in studying real earnings management consists in the fact that it could be performed very differently by firms from different industries. Moreover, many approaches and models to measure real earnings management exist, as it is generally more difficult to spot than accrual-based earnings management. For the purposes of this study, taking into account its general innovativeness for Russia, it seems more relevant to utilize the established and proven methodology to detect accrual-based earnings management, more specifically, the Jones model, and use these data to analyze the link between corporate governance mechanisms and accrual-based earnings management.

CHAPTER 2. METHODOLOGY AND EMPIRICAL RESULTS

2.1. Sample

In order to investigate the possible connection between earnings management and corporate governance characteristics for Russian firms, a sample of Russian public companies which are listed on Moscow Exchange (companies that represent all the three listing levels were considered), London Stock Exchange and Nasdaq Stock Market was collected. The final unbalanced panel dataset includes 184 companies. The data were collected from Thomson Reuters (Refinitiv) Eikon, SKRIN and SPARK databases. The financial statements prepared in accordance with the Russian Accounting Standards (RAS) were used. For the board and audit committee characteristics, company websites and E-disclosure database of corporate reports of Interfax were utilized. For the assessment of financial expertise, annual and quarterly reports and open sources, such as news outlets, were used.

The analyzed timeframe includes 5 years, from 2014 to 2018. The upper boundary of the timeframe (2018) is the last year for which the data were available at the moment of collection. The lower boundary of the interval (2014) was chosen as the year when the new Code of the Corporate Governance was recommended for implementation by the Central Bank of Russia. The Code has significantly changed the standards of corporate governance for listed Russian companies and introduced several new reporting forms. For example, the form of the Report on compliance with principles and recommendations of the Corporate Governance Code of the Bank of Russia was elaborated to include more data that the public companies are now supposed to disclose.

Several criteria were applied to determine the final composition of the sample. The accessibility of the data needed to compute the earnings management estimations and run an analysis of corporate governance mechanisms presented the first criterion. The companies used for the analysis have their financial statements as well as annual and quarterly reports published in the databases or open sources, such as company websites. Secondly, the companies of the Financials sector (according to Thomson Reuters Business Classification) were excluded from the analysis. This is in line with most extant research (see, for instance, Klein 2002). For the financial services firms, it is harder to determine the abnormal accruals figure, since their reporting requirements are different from the companies of other industry sectors. Thus, the commonly used methods, such as Jones model, are not suitable for these firms. Finally, non-public companies are also excluded, as many of them lack corporate governance mechanisms or are not obliged to report the information about the existing corporate governance system.

The industry breakdown of the sample is shown on Figure 2 (the Thomson Reuters Business Classification was used). Utilities companies represent the largest proportion of the firms in the sample, accounting for 31% of all firms. This category is mainly comprised of the firms that engage in the generation, transmission and distribution of electricity. The examples of utilities companies in the sample are TKG-2 (electricity generation), MRSK Volgi (electricity transmission) or TNS Energo Kuban (electricity distribution).

Next, the sector of Basic Materials makes up 22% of the sample. Basic materials firms engage in discovery and processing of raw materials, such as gold or chemicals. Akron (agricultural chemicals producer) or MMK (iron & steel producer) are examples of Basic Materials firms in the sample.

Industrials sector accounts for 14% of the final sample and includes companies that manufacture and/or distribute capital goods, for instance, airlines, construction firms or industrial machinery producers. Aeroflot, an airline, or NMTP (Novorossiysk Commercial Sea Port), a sea port operator, are the representatives of the Industrials sector.

One of the prominent sectors for Russian economy, Energy, is represented by firms that make up a tenth of the sample. Energy firms, such as Rosneft or Surgutneftegaz, engage in exploration of oil and gas reserves and refining. The rest of the sample is comprised of Consumer Cyclical, Consumer Non-Cyclicals, Telecoms, Technology and Healthcare firms.

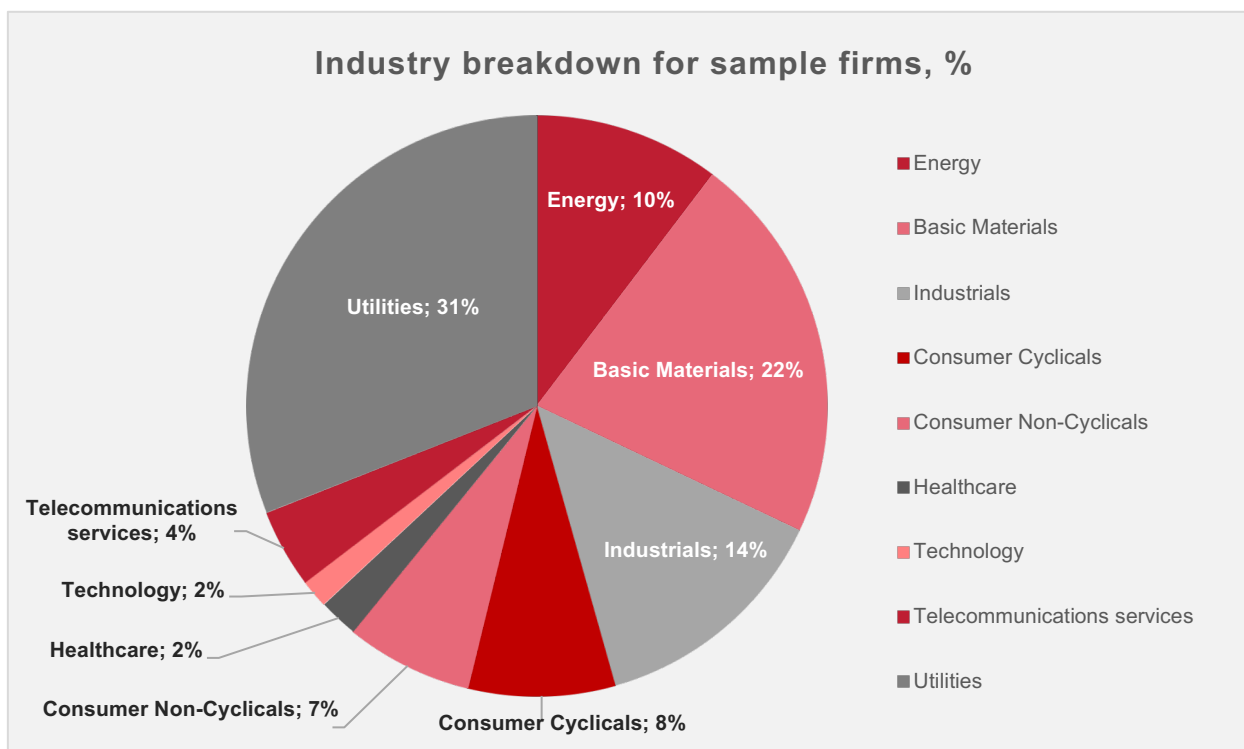


Figure 2. Industry breakdown for sample firms

2.2. Methodology

The methodology used in the study mostly relies on the regression analysis techniques. The first step of the analysis is proxy generation for earnings management. This is necessary in order to obtain a figure that will later be used as a dependent variable in order to see how certain characteristics of corporate governance of the firm might affect the level of earnings manipulations.

The Jones model has been widely adopted for the detection of earnings management (Jones 1991). The model is utilized to determine the likelihood of accrual-based earnings management (AEM), i.e. the manipulations with the accounting methods or estimates. Again, the idea of the model is to compare the predicted amount of total accruals with the actual total accruals figure. The difference between the two indicates that earnings management might have taken place.

In order to estimate the Jones model, first of all, the actual total accruals of the firm are computed. The total accruals figure is calculated as a difference between the company's net profit and free cash flow from operating activities. Cash flows are different from profits, as the latter also include the accrued items; for instance, revenue is recognized when it is earned, but that does not necessarily mean that the firm has received the payment. The equation below represents the difference between the "paper earnings" of the firm (net profit) and the actual cash flows that the firm was able to generate in a particular period of time:

$$Total\ Accruals_{i,t} = Net\ Profit_{i,t} - Cash\ Flow\ from\ Operating\ Activities_{i,t}, \quad (1)$$

where $Total\ Accruals_{i,t}$ are the total accruals for firm i in year t ;

$Net\ Profit_{i,t}$ is the net profit for firm i in the year t ;

$Cash\ Flow\ from\ Operating\ Activities_{i,t}$ is the cash flow from operating activities for firm i in the year t .

This approach was analyzed in the paper of Hribar and Collins (2002) and is shown to yield better results than the balance sheet approach, which takes the data for accruals estimation from the firm's balance sheet. Similar approach to the total accruals computation was used in previous studies (Sierra García, Ruiz Barbadillo, and Orta Pérez 2012; Bruynseels and Cardinaels 2014; Ferris and Liao 2019).

Next, using the Jones model, the predicted total accruals are calculated:

$$TACC_{i,t} = \beta_1 * (1/TA)_{i,t} + \beta_2 * SALES_TA_{i,t} + \beta_3 * PPE_TA_{i,t} + e_{i,t}, \quad (2)$$

where $TACC_{i,t}$ are the total accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$;

$TA_{i,t}$ are the total assets for firm i in the year t ;

$SALES_TA_{i,t}$ is a change in revenue of firm i in the year t , compared to the year $t-1$, weighted by the total assets of firm i in year $t-1$;

$PPE_TA_{i,t}$ is property, plant and equipment of firm i in year t , weighted by the total assets of firm i in year $t-1$.

The Jones model uses common indicators (e.g. total assets or property, plant and equipment) that can be obtained from any firm's financial statements. The Jones model incorporates several advantages, such as the possibility to use for companies of different size — all indicators are weighted by the firm's total assets — and the ability to track earnings management across different industries. The Jones model has also been used by many researchers of the association between corporate governance efficiency and earnings management, for example, in (Klein 2002) or (Sierra García, Ruiz Barbadillo, and Orta Pérez 2012).

Finally, the proxy for accrual-based earnings management, discretionary accruals, is estimated for each observation as the difference between the actual total accruals and the predicted total accruals. Both figures are weighted by total assets to control for the differences in company size:

$$DACC_{i,t} = TACC_{i,t} - \widehat{TACC}_{i,t}, \quad (3)$$

where $DACC_{i,t}$ are the discretionary accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$;

$TACC_{i,t}$ are the actual total accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$;

$\widehat{TACC}_{i,t}$ are the predicted total accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$.

Generally, discretionary accruals, also known as abnormal accruals, suggest whether managers could “move” earnings upward or downward. Positive discretionary accruals figure might indicate that earnings were inflated, as the actual total accruals are higher than those predicted by the model. Similarly, negative discretionary accruals figure means that earnings could have been understated. However, for the purposes of this study, the absolute values for discretionary accruals are computed for the further analysis:

$$AEM_{i,t} = |DACC_{i,t}|, \quad (4)$$

where $AEM_{i,t}$ is the absolute value of the discretionary accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$;

$DACC_{i,t}$ are the discretionary accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$.

The reason for the use of the absolute value of discretionary accruals is connected with the nature of the following analysis that will deal with the magnitude of earnings management. The focus of the study is the *extent* of earnings management, rather than its *direction*; it can be measured via absolute discretionary accruals. The similar approach is also used by extant researchers (Klein 2002; Davidson, Goodwin-Stewart, and Kent 2005; Piot and Janin 2007; Baccouche, Hadriche, and Omri 2013).

The analysis of the corporate governance mechanisms' ability to restrain earnings manipulations is performed in two key steps. Firstly, the study looks into the role of the board and its composition in preventing earnings management. Secondly, it focuses on the audit committee and its characteristics. Ownership specifics are also investigated.

As all next models rely on panel data, the choice between the pooled regression, the regression with fixed effects and the regression with random effects is also made for each particular model. It is necessary in order to incorporate the unique attributes of the firms, if those exist. For this, the Wald test, the Breusch-Pagan test and the Hausman test are performed. In all cases, the fixed effects models were used as a result. The correlation matrices were also built to check for multicollinearity; the cluster-robust standard errors are used to account for heteroscedasticity. The multicollinearity issue was also analyzed with the variance inflation factors (VIFs). The VIFs for all variables in all models are below 4 (and even below 3), which suggests that there is no serious multicollinearity (see Appendices 6-7 for VIFs).

The starting point of the analysis is the regression model that estimates the possible relationship between the presence of an audit committee as such and the absolute values of the discretionary accruals. The presence of the audit committee is a binary variable that equals to "1" if the audit committee is established for a given firm on a given period and "0" otherwise. In accordance with the Hypothesis 1, the coefficient for $AUDITCOM_{i,t}$ is also expected to be negative:

$$AEM_{i,t} = \alpha_0 + \alpha_1 * SIZE_{i,t} + \alpha_2 * LEVERAGE_{i,t} + \alpha_3 * ROA_{i,t} + \alpha_4 * AUDITCOM_{i,t} + \varepsilon_{i,t}, \quad (5)$$

where $AEM_{i,t}$ is the absolute value of the discretionary accruals for firm i in year t , weighted by the total assets of firm i as of the end of year $t-1$;

$SIZE_{i,t}$ is the natural logarithm of the total assets of the firm i as of the end of the year t ;

$LEVERAGE_{i,t}$ is the leverage of the firm i in year t , i.e. the sum of the short- and long-term liabilities of the firm i in year t , divided by the shareholders' equity of the firm i in year t ;

$ROA_{i,t}$ is the return on investment of firm i in year t ;

$AUDITCOM_{i,t}$ is the binary variable that equals to “1” if the firm i has an audit committee as of the end of year t .

The model also utilizes several control variables that help to account for firm size, return on investment and leverage. The firm’s size is controlled for by the $SIZE_{i,t}$ variable. It represents the natural logarithm of the firm’s assets, thus allowing to take into account differences in the firms’ size as measured by the asset value. One can expect the negative association between the firm’s size and the extent of earnings management, since larger firms tend to be scrutinized more by both authorities and investors. A similar control variable has been largely used by the previous researchers, and the significant negative relationship was often reported (Xie, Davidson, and DaDalt 2003; Ghosh, Marra, and Moon 2010).

Two other control variables, namely $ROA_{i,t}$ and $LEVERAGE_{i,t}$, allow to control for differences in profitability and leverage. Firms that show a strong profitability level might have less incentive to engage in earnings management. Leverage level might also influence the decision to manipulate earnings. The more indebted the company is, the more monitoring comes from creditors, making earnings management, especially accrual-based one (which, as the literature suggests, is easier to detect), more difficult. ROA and leverage have also been included in similar models by previous authors, e.g. in (Klein 2002; Piot and Janin 2007; Bruynseels and Cardinaels 2014).

The next step of the study implies adding the board of directors characteristics to the model in order to see whether the board composition also impacts the magnitude of earnings management. As the literature review suggests, many earlier researchers have focused on the board composition and its role in curbing earnings management practices.

Different authors tested different measures of the board independence. A common measure of independence might be the share of independent directors on board (Piot and Janin 2007; Chen and Zhang 2014). However, other approaches to the measurement of board independence have also produced interesting results. For example, Klein (2002) finds a strong negative relationship between the requirement of having more than 50% independent directors on board and earnings management and a weaker (but still significant) one between the percentage of independent directors on board and earnings management.

The choice of the metric depends on the regulatory peculiarities. While the corporate governance practices in Russia have improved significantly in recent years, the share of independent directors, even in the companies that represent the first level of listing on Moscow Exchange, is usually well below 50%. Therefore, three independence measures, which are

generally less stringent than those proposed by Klein (2002), are utilized. They are presented in Table 1 below.

Table 1. Three measures of board independence used in the study

Variable	Definition	Explanation
$BOARDIND1_{i,t}$	Binary variable that equals to “1” if <i>at least one member</i> of the board of directors of the firm as of the end of year is independent	The most flexible measure of board independence requires at least one independent member: theoretically, there is at least one person on the board that should be responsible for the monitoring component of board activity.
$BOARDIND2_{i,t}$	Binary variable that equals to “1” if <i>at least two members</i> of the board of directors of the firm as of the end of year are independent	This measure is more stringent and stems from the listing requirements of Moscow Exchange; companies that would like to be listed on Level 2 (the bottom level for the quotation list) are required to have at least two independent directors on board.
$BOARDINDSH_{i,t}$	The <i>share of the independent directors</i> on board: the number of independent directors divided by the total number of directors on board	Finally, the share of independent directors on board is also tested. It might represent the best way to take into account the differences in boards’ abilities of oversight and monitoring, as the share of independent directors takes into account the board size (a board of 7 members with two independent directors is probably different from a board of 15 members with two independent directors). The current version of the Code of Corporate Governance of the Central Bank of Russia recommends that at least a third (33%) of the board is independent in order to ensure effective oversight.

Another board characteristic that is analyzed in the study is the size of the board of directors. Board size has been introduced in the models in many previous studies — with the mixed results. The typical measure for board size is just the number of directors on board (e.g. see Baxter and Cotter 2009; Ferris and Liao 2019).

Finally, the number of other directorships of the board members is taken into consideration. Busier directors might have less resources to properly monitor decision-making as they have to exercise control over different companies at the same time. By including the variable $BOARDOTHER_{i,t}$ to the model, this study also investigates whether the number of outside directorships impacts earnings management patterns.

The models for the board characteristics are presented below. As it was mentioned earlier, three measures of board independence are tested, thus resulting in three following models:

$$AEM_{i,t} = \gamma_0 + \gamma_1 * SIZE_{i,t} + \gamma_2 * LEVERAGE_{i,t} + \gamma_3 * ROA_{i,t} + \gamma_4 * AUDITCOM_{i,t} + \gamma_5 * BOARDIND_{i,t} + \gamma_6 * BOARDSIZE_{i,t} + \gamma_7 * BOARDOTHER_{i,t} + \epsilon_{i,t}, \quad (6)$$

$$AEM_{i,t} = \delta_0 + \delta_1 * SIZE_{i,t} + \delta_2 * LEVERAGE_{i,t} + \delta_3 * ROA_{i,t} + \delta_4 * AUDITCOM_{i,t} + \delta_5 * BOARDIND2_{i,t} + \delta_6 * BOARDSIZE_{i,t} + \delta_7 * BOARDOTHER_{i,t} + \theta_{i,t}, \quad (7)$$

$$AEM_{i,t} = \mu_0 + \mu_1 * SIZE_{i,t} + \mu_2 * LEVERAGE_{i,t} + \mu_3 * ROA_{i,t} + \mu_4 * AUDITCOM_{i,t} + \mu_5 * BOARDINDSH_{i,t} + \mu_6 * BOARDSIZE_{i,t} + \mu_7 * BOARDOTHER_{i,t} + \vartheta_{i,t}, \quad (8)$$

where $AEM_{i,t}$ is the absolute value of the discretionary accruals for firm i in year t , weighted by the total assets of firm i as of the end of year $t-1$;

$SIZE_{i,t}$ is the natural logarithm of the total assets of the firm i as of the end of the year t ;

$LEVERAGE_{i,t}$ is the leverage of the firm i in year t , i.e. the sum of the short- and long-term liabilities of the firm i in year t , divided by the shareholders' equity of the firm i in year t ;

$ROA_{i,t}$ is the return on investment of firm i in year t ;

$AUDITCOM_{i,t}$ is the binary variable that equals to "1" if the firm i has an audit committee as of the end of year t ;

$BOARDIND1_{i,t}$ is the binary variable that equals to "1" if at least one member of the board of directors of the firm i as of the end of year t is independent;

$BOARDIND2_{i,t}$ is the binary variable that equals to "1" if at least two members of the board of directors of the firm i as of the end of year t are independent;

$BOARDINDSH_{i,t}$ is the number of independent directors divided by the total number of directors on the board for firm i as of the end of the year t ;

$BOARDSIZE_{i,t}$ is the number of directors on the board of firm i as of the end of year t ;

$BOARDOTHER_{i,t}$ is the average number of outside directorships of the board member of firm i as of the end of year t .

It is also worth mentioning that the univariate regressions are run for each board of directors variable before the model is built. This procedure is similar to the one of extant studies: see, for example, Klein (2002) and Xie, Davidson and DaDalt (2003). Univariate regressions allow to separately assess each variable and its potential relationship with the absolute values of discretionary accruals.

Next, the study switches to the analysis of the audit committee characteristics. In this part of the study, only the firms with an established functioning audit committee as of the end of year t are considered.

As with the board of directors, one of the key characteristics of the audit committee is the independence of its members. Independent audit committee members are assumed to discipline financial managers more effectively.

Different approaches exist to the independence measurement for audit committee members. Most studies use dummy variables that measure if the company meets a 50% or 100% independence requirement. For example, the results in Klein (2002) indicate that the most significant relationship between the audit committee independence and earnings management is observed when less than majority (50%) of the audit committee is not independent. By contrast, the association between the 100% audit committee independence and earnings management is insignificant.

It is worth noting that the regulatory requirements for the audit committee independence are more strict. In the U.S., the new regulations passed after the Enron and WorldCom corporate scandals (more specifically, Sarbanes-Oxley Act) require independence of all audit committee members. Moscow Exchange listing requirements also suggest that all audit committee members should be independent for both quotation list levels of listing (first and second). However, the requirements leave room for the firms by stating that if it is impossible to meet the 100% independence requirement, at least 50% of the audit committee should be independent for the Level I; all members should at least be non-executive for the Level II. Almost all companies in the sample have no executive members in the audit committee, so this study utilizes the “at least 1 independent member” measurement instead as the most flexible. All in all, three audit committee independence metrics are applied. They are presented in the Table 2 below.

Table 2. Three measures of audit committee independence used in the study

Variable	Definition	Explanation
$AUDITIND1_{i,t}$	Binary variable that equals to “1” if <i>at least one member</i> of the audit	The most flexible measure of the audit committee independence requires the

	committee of the firm as of the end of year is independent	presence of at least one independent member. Meeting this requirement suggests that at least some independent oversight over financial reporting takes place.
$AUDITIND50_{i,t}$	Binary variable that equals to “1” if <i>at least 50%</i> of the audit committee members as of the end of year are independent	As with board independence, this measure comes from the aforementioned listing requirements of Moscow Exchange. 50% independence requirement is used, for instance, by Klein (2002) or Piot and Janin (2007).
$AUDITIND100_{i,t}$	Binary variable that equals to “1” if <i>all members</i> of the audit committee as of the end of year are independent	This measure is in line with the basic Moscow Exchange requirement regarding the audit committee independence for the first two listing levels, as well as the similar U.S. requirement. It is also used by Klein (2002).

In line with the extant research, this study also looks into the financial expertise of the audit committee members ($AUDITEXP_{i,t}$). The assessment of financial expertise was performed manually, as there is no official requirement for the firms to make and disclose judgements about the level of financial sophistication of the audit committee members. For the purposes of this study, an approach of Badolato, Donelson and Ege (2014) is used to determine whether an audit committee members has the financial expertise. According to the researchers, audit committee members are classified as having the necessary financial expertise if their biographical information includes terms reflecting accounting experience, experience supervising the preparation of financial statements or expertise using financial statements. Most audit committee members that are classified as having the financial expertise in the sample have previously been employed as financial directors (CFOs) or chief accountants, worked as auditors or obtained a certification in financial analysis or accounting (e.g. ACCA).

Similarly to the board of directors model, an audit committee model also has a variable of the members’ outside directorship. Busy directors involved in many audit committees may be not that effective in curbing manipulations in financial reports. To measure busyness, the average number of other directorships of the audit committee members is used. All directorships are taken into account, not only those where the director also serves as the audit committee member.

One more important audit committee characteristic is the level of its activity. As with the board size and in line with previous research, it is measured as the number of audit committee members (Baxter and Cotter 2009; Ghosh, Marra, and Moon 2010). The variable for the number of meetings, $AUDITMEET_{i,t}$, is introduced in the separate model specification because of the smaller number of observations for which the data on the number of meetings of the audit committee is available. The annual number of meetings as a measure of the audit committee activity was also previously tested in many studies (Xie, Davidson, and DaDalt 2003; Bedard, Chtourou, and Courteau 2004; Ghosh, Marra, and Moon 2010).

Finally, the external auditor variable is also introduced to the model as a control variable. The evidence that large and reputable audit firms are more successful in spotting and preventing earnings management comes from many previous studies (Becker et al. 1998; Alzoubi 2016). There are also few studies that find no impact of the external auditor on earnings manipulation, e.g. (Piot and Janin 2007). In this case, the authors argue that differences in the effectiveness of external auditors may stem from the peculiarities of local legislation. As in most previous studies, a dummy variable is created that shows whether the company's auditor is from the "elite" club of Big Four firms (Deloitte, PwC, EY, KPMG).

Thus, the resulting models are presented below. As with the board characteristics, the difference lies in the three ways to measure the independence of the audit committee members:

$$AEM_{i,t} = \rho_0 + \rho_1 * SIZE_{i,t} + \rho_2 * LEVERAGE_{i,t} + \rho_3 * ROA_{i,t} + \rho_4 * AUDITIND1_{i,t} + \rho_5 * AUDITEXP_{i,t} + \rho_6 * AUDITOTHER_{i,t} + \rho_7 * AUDITSIZE_{i,t} + \rho_8 * EXTAUDIT_{i,t} + \pi_{i,t}, \quad (9)$$

$$AEM_{i,t} = \tau_0 + \tau_1 * SIZE_{i,t} + \tau_2 * LEVERAGE_{i,t} + \tau_3 * ROA_{i,t} + \tau_4 * AUDITIND50_{i,t} + \tau_5 * AUDITEXP_{i,t} + \tau_6 * AUDITOTHER_{i,t} + \tau_7 * AUDITSIZE_{i,t} + \tau_8 * EXTAUDIT_{i,t} + \sigma_{i,t}, \quad (10)$$

$$AEM_{i,t} = \varphi_0 + \varphi_1 * SIZE_{i,t} + \varphi_2 * LEVERAGE_{i,t} + \varphi_3 * ROA_{i,t} + \varphi_4 * AUDITIND100_{i,t} + \varphi_5 * AUDITEXP_{i,t} + \varphi_6 * AUDITOTHER_{i,t} + \varphi_7 * AUDITSIZE_{i,t} + \varphi_8 * EXTAUDIT_{i,t} + \eta_{i,t}, \quad (11)$$

$$AEM_{i,t} = \omega_0 + \omega_1 * SIZE_{i,t} + \omega_2 * LEVERAGE_{i,t} + \omega_3 * ROA_{i,t} + \omega_4 * AUDITIND1_{i,t} + \omega_5 * AUDITEXP_{i,t} + \omega_6 * AUDITOTHER_{i,t} + \omega_7 * AUDITSIZE_{i,t} + \omega_8 * AUDITMEET_{i,t} + \omega_9 * EXTAUDIT_{i,t} + \lambda_{i,t}, \quad (12)$$

where $AEM_{i,t}$ is the absolute value of the discretionary accruals for firm i in year t , weighted by the total assets of firm i as of the end of year $t-1$;

$SIZE_{i,t}$ is the natural logarithm of the total assets of the firm i as of the end of the year t ;

$LEVERAGE_{i,t}$ is the leverage of the firm i in year t , i.e. the sum of the short- and long-term liabilities of the firm i in year t , divided by the shareholders' equity of the firm i in year t ;

$ROA_{i,t}$ is the return on investment of firm i in year t ;

$AUDITIND1_{i,t}$ is the binary variable that equals to “1” if at least one member of the audit committee of the firm i as of the end of year t is independent;

$AUDITIND50_{i,t}$ is the binary variable that equals to “1” if at least 50% of the audit committee of the firm i as of the end of year t are independent;

$AUDITIND100_{i,t}$ is the binary variable that equals to “1” if all the members of the audit committee of the firm i as of the end of year t is independent;

$AUDITEXP_{i,t}$ is the share of the members of the audit committee of the firm i that were classified as having the financial expertise as of the end of the year t ;

$AUDITOTHER_{i,t}$ is the average number of outside directorships of the audit committee member of firm i as of the end of year t ;

$AUDITSIZE_{i,t}$ is the number of directors on the audit committee of firm i as of the end of year t ;

$AUDITMEET_{i,t}$ is the number of meetings held by the audit committee of firm i during the year t ;

$EXTAUDIT_{i,t}$ is the binary variable that equals to “1” in case an external auditor of the firm i for the year t is one of the Big Four firms (Deloitte, PwC, EY, KPMG).

At the final stage of the research, the subsamples are analyzed. An important feature of the Russian economy is the large share of state-owned enterprises (SOEs). IMF estimates that state-owned firms account for 33% of the GDP of Russia as of 2016 (Di Bella, Dynnikova, and Slavov 2016). Previous research also suggests that the Russian state-owned enterprises might show different patterns of behavior on the market. For example, Abramov, Radygin and Chernova (2017) demonstrate that Russian SOEs are lagging behind their private counterparts in terms of productivity.

Thus, this study also investigates whether the association between the extent of earnings management use and the characteristics of the board of directors and the audit committee is the same for private firms and SOEs. For this, the sample is divided into two subsamples, depending on the type of ownership. The state ownership, direct or indirect, is determined via the companies' annual reports that include the “Capital structure” part, where the firms are obliged to disclose who their key shareholders are. The company was considered state-owned if more than 50% of its shares belonged to the state, directly or indirectly. For example, 88% of Rosseti, an electric power distribution company, is held by the Federal Agency for State Property Management; therefore, Rosseti is an SOE. By contrast, 77% of shares of Severstal, a steel-maker, are held by one private shareholder; thus, Severstal is a private firm. As of 2018, 31% of the companies in the sample are state-owned. The analysis itself involves the separate estimation of models (9)-(10) for both SOE and private firms' subsamples.

Finally, the robustness of the findings was also assessed. The study of any phenomenon connected with the earnings management relies heavily on the quality of the discretionary accruals estimation. The discretionary accruals, as it was previously highlighted, serve as a proxy for earnings management. In order to test the robustness of the findings, the same analysis was performed with the help of not the commonly used Jones model (which was used for the principal analysis in this study), but its modification offered in (Dechow, Sloan, and Sweeney 1995). The modified version of the Jones model was also applied in several previous papers that analyzed the relationship between the characteristics of the board and the audit committee and the level of earnings management (e.g. see (Davidson, Goodwin-Stewart, and Kent 2005)). The only difference between the Jones model and its modified version is that the latter also takes into account the change in accounts receivable of the firm:

$$TACC_{i,t} = \psi_1 * (1/TA)_{i,t} + \psi_2 * (SALES_TA_{i,t} - ACCREC_TA_{i,t}) + \psi_3 * PPE_TA_{i,t} + \chi_{i,t}, \quad (13)$$

where $TACC_{i,t}$ are the total accruals for firm i in year t , weighted by the total assets of firm i in year $t-1$;

$TA_{i,t}$ are the total assets for firm i in the year t ;

$SALES_TA_{i,t}$ is a change in revenue of firm i in the year t , compared to the year $t-1$, weighted by the total assets of firm i in year $t-1$;

$ACCREC_TA_{i,t}$ is a change in accounts receivable of firm i in the year t , compared to the year $t-1$, weighted by the total assets of firm i in year $t-1$;

$PPE_TA_{i,t}$ is property, plant and equipment of firm i in year t , weighted by the total assets of firm i in year $t-1$.

The obtained results (with the use of the modified version of the Jones model) were completely similar to the results that are presented below. The estimated modified Jones model is presented in Appendix 3. Previous researchers that performed a similar robustness check also reported no change in findings (e.g. see Klein (2002)).

2.3. Descriptive statistics

The descriptive statistics for the variables in the sample are presented in the Tables 3-4 below. The second table (Table 4) deals only with the binary variables that equal to “0” or “1” only for each observation. The average value for $AEM_{i,t}$, the variable that will be used as a dependent variable in the models in the study, is 0.0350. As it was outlined previously, $AEM_{i,t}$ only takes positive values — to measure the extent of earnings management, rather than its direction — and is a proxy for the level of earnings management that a company may engage in in any particular year. An average for the size of the company ($SIZE_{i,t}$) is 24.2, which corresponds

to the total assets value of more than 32 billion rubles. The average level of leverage ($LEVERAGE_{i,t}$) stands at almost 1.36, meaning that an average firm from the sample has 58% of debt and 42% of equity on its balance sheet (the observations with the negative equity figure were deleted from the sample before modelling).

As for the corporate governance variables, the average share of independent directors on board of the firms in the sample is slightly higher than 20%. There is no observation in the sample with 100% independent board: the highest share of independent directors for the sample firms is approximately 86%. At the same time, 60% of the observations feature at least one independent director on board ($BOARDIND1_{i,t}$). A median board size equals to 9; most boards have an uneven number of directors, perhaps to facilitate the voting procedure. The directors on board also often occupy similar position in other firms: an average level of other directorships of a board member ($BOARDOTHER_{i,t}$) is 1.73. The firm with the busiest directors had the average level of 44 other directorships for its board members at a particular point of time.

In 55% of cases, companies also have an established and functioning audit committee ($AUDITCOM_{i,t}$). It is not the case that an overwhelming majority of the analyzed firms already has an established audit committee. This is important observation to make, since some previous researchers who found insignificant connections between certain audit committee attributes and earnings management posited that the reason for that could lie in the fact that most firms in the sample already had an established audit committee (see, for example, (Peasnell, Pope, and Young 2005; Sierra García, Ruiz Barbadillo, and Orta Pérez 2012)). As it was previously mentioned, the absence of the audit committee in 45% of the cases might be connected with the fact that some firms of the third level of listing of Moscow Exchange are not required to establish it.

More than 78% of observations where an audit committee was in fact established also had an independent director in it ($AUDITIND_{i,t}$); in 61% of cases, a majority of audit committee members was independent ($AUDITIND50_{i,t}$) and in almost 30% of cases the committee was comprised of fully independent directors ($AUDITIND100_{i,t}$), thus fulfilling the requirement for the first level of listing of Moscow Exchange or the international stock exchanges the firms are present on.

A median size of an audit committee ($AUDITSIZE_{i,t}$) is 3; the largest committee in the sample has 8 members. Audit committee members in the sample have, on average, less outside directorships ($AUDITOTHER_{i,t}$) than board members in general (1.67 vs 1.73); the largest average number of outside directorships is “only” 10. A median for audit committee meetings is 8 per year ($AUDITMEET_{i,t}$; this includes all meeting sessions, both in-person and via teleconferencing).

More than 26% of audit committees also have at least one member who possesses financial expertise ($AUDITEXP_{i,t}$). Finally, Big Four auditors were auditing the financial statements in 28% of cases ($EXTAUDIT_{i,t}$); that percentage is actually higher for the International Financial Reporting Standards (IFRS) reporting: Russian firms in many cases seemed to hire different auditors for the audit of financial statements prepared in accordance with IFRS and Russian Accounting Standards (RAS). This study relied on the data from the statements prepared in accordance with the RAS; therefore, the external auditor information was also collected for the RAS.

Table 3. Descriptive statistics (part 1)

Variable	Average	Minimum value	25th percentile	Median	75th percentile	Maximum value
$TACC_{i,t}$	-0,0095	-0,3799	-0,0764	-0,0225	0,0361	0,5541
$AEM_{i,t}$	0,0350	0,0039	0,0182	0,0334	0,0446	0,1130
$SIZE_{i,t}$	24,1988	19,6423	22,7060	24,2056	25,5487	30,3870
$LEVERAGE_{i,t}$	1,3598	0	0,1750	0,6111	1,7142	8,6726
$ROA_{i,t}$	0,0466	-0,2944	0,0025	0,0290	0,0813	0,3931
$BOARDINDSH_{i,t}$	0,2036	0	0	0,1818	0,3333	0,8571
$BOARDSIZE_{i,t}$	8,9556	4	7	9	11	18
$BOARDOTHER_{i,t}$	1,7342	0	0	1	2,5556	44
$AUDITSIZE_{i,t}$	3,6005	2	3	3	4	8
$AUDITOTHER_{i,t}$	1,6717	0	0	1,3333	2,4286	10
$\backslash AUDITMEET_{i,t}$	8,6701	0	5	8	12	33

Table 4. Descriptive statistics (part 2 — binary variables)

Variable	Percentage of observations with the value of “1”	Percentage of observations with the value of “0”
$AUDITCOM_{i,t}$	0,5505	0,4495
$BOARDIND1_{i,t}$	0,6006	0,3994
$BOARDIND2_{i,t}$	0,5328	0,4672
$AUDITIND1_{i,t}$	0,7841	0,2159
$AUDITIND50_{i,t}$	0,6175	0,3825
$AUDITIND100_{i,t}$	0,2975	0,7025
$AUDITEXP_{i,t}$	0,2639	0,7361
$EXTAUDIT_{i,t}$	0,2806	0,7194

2.4. Empirical results

The first step of the empirical analysis is the estimation of the Jones model. As it was previously said, the model allows to come up with the proxy for earnings management, the discretionary accruals. The Jones model for the sample can be found in the Appendix 2. The model is statistically significant, thus allowing to proceed with the further analysis.

Board of directors characteristics

The Table 5 below presents the univariate regressions that were first built to analyze the possible connections between the variables. The dependent variable is $AEM_{i,t}$, the proxy for earnings management. The correlation matrix for all variables that are used in the models for the attributes of the board of directors is displayed in the Appendix 4.

The analysis gives the first hint as to which connections might be significant. As one can see, three models are statistically significant, namely for the audit committee presence, the percentage of independent directors and the board size. The associations between earnings management and the percentage of independent directors (at a significance level of 0.1) and the board size (at a significance level of 0.05) are negative. The level of earnings management is also lower for the analyzed firms if an audit committee is present (at a significance level of 0.05).

Table 5. Univariate regressions: board of directors characteristics

<i>const</i>	<i>AUDITCOM_{i,t}</i>	<i>BOARDIND1_{i,t}</i>	<i>BOARDIND2_{i,t}</i>	<i>BOARDINDSH_{i,t}</i>	<i>BOARDSIZE_{i,t}</i>	<i>BOARDOTHER_{i,t}</i>	F-statistic	R ²
0,0785*** (0,0050)	-0,0192** (0,0070)						5,05**	0,0074
0,0772*** (0,0054)		-0,0006 (0,0068)					0,01	0,0001
0,0767*** (0,0050)			0,0008 (0,0068)				0,12	0,0003
0,0721*** (0,0048)				-0,0251* (0,0164)			3,31*	0,0041
0,1073*** (0,0124)					-0,0033** (0,0013)		6,36**	0,0077
0,0763*** (0,0035)						0,0006 (0,0009)	0,46	0,0005

Note: standard errors are given in brackets. *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

Next, the first set of multivariate models is built in order to see whether the associations found in the univariate models will hold. The results of the estimation of four multivariate regression models are presented in the Table 6 below. Again, $AEM_{i,t}$, the proxy for earnings management, is a dependent variable (see formulas (5)-(8) for the information on each model specification). Fixed effects models were chosen for all specifications after the Wald test, the Breusch-Pagan test and the Hausman test were performed.

Table 6. Multivariate regressions: board of directors characteristics

Variable	Model 1	Model 2	Model 3	Model 4
$SIZE_{i,t}$	-0,0017** (0,0008)	-0,0021** (0,0010)	-0,0022** (0,0010)	-0,0021** (0,0010)
$LEVERAGE_{i,t}$	-0,0000 (0,0001)	-0,0001 (0,0001)	-0,0001 (0,0001)	-0,0001 (0,0001)
$ROA_{i,t}$	0,0034 (0,0083)	0,0012 (0,0080)	0,0011 (0,0088)	0,0010 (0,0090)
$AUDITCOM_{i,t}$	-0,0083** (0,0035)	-0,0090** (0,0039)	-0,0093** (0,0037)	-0,0091** (0,0035)
$BOARDIND1_{i,t}$	—	-0,0038 (0,0030)	—	—
$BOARDIND2_{i,t}$	—	—	-0,0037 (0,0028)	—
$BOARDINDSH_{i,t}$	—	—	—	-0,0064* (0,0028)
$BOARDSIZE_{i,t}$	—	-0,0042** (0,0016)	-0,0027** (0,0012)	-0,0048** (0,0015)
$BOARDOTHER_{i,t}$	—	0,0026 (0,0033)	0,0020 (0,0028)	0,0022 (0,0029)
<i>const</i>	0,0675*** (0,0142)	0,0783*** (0,0125)	0,0712*** (0,0178)	0,0697*** (0,0126)
F-statistic	8,67***	9,54***	9,35***	9,88***
R^2 (within)	0,0610	0,0810	0,0807	0,0835

Note: standard errors are given in brackets. *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

All models above are statistically significant, as demonstrated by F-statistic value that in all cases corresponds to the P-value of 0.000. First of all, the findings show the variable which indicates the presence of an audit committee ($AUDITCOM_{i,t}$) is significant at the level of 0.05. One can thus argue that, all other things being equal, Russian companies where an audit committee is present demonstrate a lower level of earnings management than their counterparts without an established audit committee. The result supports the Hypothesis 1 and demonstrates the monitoring component of the audit committee's overall role, thus supporting the notion that the establishment of the audit committee can be considered "best practice" of corporate governance. The finding is also consistent with most of previous research. For instance, the ability of an audit committee to

curb earnings management for the sample of the French firms was shown in (Piot, Janin 2007). The same results was obtained by Baxter and Cotter (2009) for Australia. However, it is also worth mentioning that for example, for the U.K. firms, Peasnell, Pope and Young (2005) demonstrated the absence of link between the presence of the committee and earnings manipulations.

The three previously discussed alternatives of measuring the overall board independence were tested in three separate model specifications (Models 2-4). The only significant variable (at a significance level of 0.1) represents the percentage of independent directors on board; the relationship of $BOARDINDSH_{i,t}$ and discretionary accruals is negative. Interestingly, the most flexible measure of board independence, $BOARDIND1_{i,t}$, as well as the variable relying on Moscow Exchange requirements, $BOARDIND2_{i,t}$, remained insignificant. Thus, Hypothesis 2 is partially accepted. This result is in line with some previous research: for example, Xie, Davidson and DaDalt (2003) also reported a negative relationship between earnings management and the share of outside directors for their sample of U.S. listed companies. Jaggi, Leung and Gul (2009) found a similar link between the abnormal accruals and the proportion of independent non-executive directors on board for Hong Kong firms. Most other studies also reported similar results, but used a different proxy for board independence. For instance, Klein (2002) reported a negative relationship between earnings management and board independence measured as a binary variable that equals to “1” if the majority of directors on board (more than 50%) is independent. There are also some papers where no link between board independence and earnings management was found — for example, the study of Park and Shin (2004) on the sample of Canadian firms.

Another variable that stays significant in all models is $BOARDSIZE_{i,t}$. The result indicates that there is a negative relationship between the number of directors on board and earnings management (Hypothesis 4 is therefore accepted). This might suggest that Russian boards of a greater size have greater capacity for oversight and therefore can prevent the attempts to manipulate financial reporting. Xie, Davidson and DaDalt (2003) and Bradbury, Mak and Tan (2006) demonstrate the same result for the samples of U.S. companies; however, there are also studies that presented a positive connection between board size and earnings management (e.g. Rashidah and Fairuzana 2006 — for a sample of Malaysian companies).

As the $BOARDOTHER_{i,t}$ variable remains insignificant in all models, it is impossible to make a conclusion regarding Hypothesis 8. Finally, it is also worth mentioning that the only significant control variable in Models 1-4 is the size of the firm ($SIZE_{i,t}$). The negative relationship is not surprising: as it was said, larger firms tend to be under greater scrutiny and therefore might possess less opportunities for earnings manipulations. The same relationship was also shown in, for example, (Davidson, Goodwin-Stewart and Kent 2005; Ferris and Liao 2019).

Audit committee characteristics

As we have seen from the results on the first step of the analysis, the presence of an audit committee may help to restrain earnings management. Next, the characteristics of an audit committee will be analyzed in more detail. For this, four models were built (see formulas (9)-(12) for more information). The estimation of the models is presented in Table 7; these models include only the observations where the audit committee is present (models 5-7 are based on 408 observations). In all cases, fixed effects option is utilized (the Wald test, the Breusch-Pagan test and the Hausman test were performed). The correlation matrix for all variables that are used in the models for the attributes of the audit committee is displayed in the Appendix 5.

Model specifications 5-7 differ because of the three different approaches to the measurement of the audit committee independence. Model 8 also includes the variable of the audit committee meetings; the separate specification is used, as the number of meetings was not disclosed by some firms from the sample, thus limiting the sample size for that variable (model 8 is based on 291 observations).

Table 7. Multivariate regressions: audit committee characteristics

Variable	Model 5	Model 6	Model 7	Model 8
$SIZE_{i,t}$	-0,0045*** (0,0006)	-0,0042*** (0,0006)	-0,0047*** (0,0006)	-0,0062*** (0,0008)
$LEVERAGE_{i,t}$	-0,0001* (0,0001)	-0,0001 (0,0001)	-0,0001* (0,0001)	-0,0001* (0,0001)
$ROA_{i,t}$	-0,0238*** (0,0087)	-0,0205** (0,0085)	-0,0251*** (0,0088)	-0,0171 (0,0120)
$AUDITIND1_{i,t}$	-0,0046** (0,0020)	—	—	-0,0045** (0,0019)
$AUDITIND50_{i,t}$	—	-0,0073*** (0,0022)	—	—
$AUDITIND100_{i,t}$	—	—	0,0012 (0,0023)	—
$AUDITSIZE_{i,t}$	0,0052*** (0,0009)	0,0042*** (0,0010)	0,0054*** (0,0010)	0,0039*** (0,0011)
$AUDITEXP_{i,t}$	-0,0062*** (0,0021)	-0,0060*** (0,0021)	-0,0066*** (0,0021)	-0,0075*** (0,0023)
$AUDITOTHER_{i,t}$	0,0039*** (0,0007)	0,0037*** (0,0007)	0,0039*** (0,0007)	0,0040*** (0,0007)
$AUDITMEET_{i,t}$	—	—	—	0,0011 (0,0014)
$EXTAUDIT_{i,t}$	-0,0006 (0,0021)	-0,0003 (0,0021)	-0,0010 (0,0021)	-0,0025 (0,0024)
const	0,1346*** (0,0157)	0,1310*** (0,0153)	0,1348*** (0,0158)	0,1748*** (0,0213)
F-statistic	20,36***	23,48***	20,47***	20,84***

R^2 (within)	0,2492	0,2663	0,2457	0,3479
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Note: standard errors are given in brackets. *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

Again, all models are statistically significant, thus allowing for a more detailed analysis. The most basic characteristic of an audit committee is, perhaps, its independence. Out of three variables that measure independence in models 5-7, two, namely $AUDITIND1_{i,t}$ and $AUDITIND50_{i,t}$, are statistically significant. The former equals to “1” if there is at least one independent director in the committee, while the latter equals to “1” if the majority of the committee is independent. It is also worth mentioning that the $AUDITIND50_{i,t}$ variable is significant at level of significance of 0.01, while $AUDITIND1_{i,t}$ is only significant at 0.05. The requirements of the Moscow Exchange currently oblige the first-level listed firms to have a majority of the independent directors in the audit committee, which is in line with the $AUDITIND50_{i,t}$ measure of independence. By contrast, the variable $AUDITIND100_{i,t}$ that takes into consideration the full independence requirement (it is, for example, used by the Securities and Exchange Commission of the U.S.) is insignificant for the Russian firms. Klein (2002) obtains an identical result for a sample of U.S. listed firms: while the association between the level of earnings management and the variable accounting for the independence of the majority of audit committee members is significant, the relationship between the level of earnings management and the more stringent “100% independence” variable is insignificant. Overall, the results in this study partially support Hypothesis 3.

Another interesting result is the significant positive association between the level of earnings management and the size of the audit committee ($AUDITSIZE_{i,t}$). The relationship remains significant for all four models; thus, Hypothesis 5 is rejected. One can argue that, all other things being equal, an increase in the size of an audit committee of a Russian company might lead to an increase in the level of earnings manipulations. Interestingly, the association between earnings management and the size of the audit committee is different from the one between earnings management and the size of the board (for which the association is negative). It is possible to suggest that, whereas the board of directors increases the capacity of oversight by adding directors, the audit committee actually can lose its efficiency if new people are added to it (the current median size of the audit committee for the sample is 3, which is also considered a minimal amount by some regulators, e.g. in the U.S.). While smaller audit committees may be more focused on analysis and oversight, larger committees can, for example, suffer from a free-rider problem. Furthermore, the audit committees have been established quite recently in many Russian companies; therefore, they may still be considered by boards or shareholders as a formal institution, rather than as an effective monitoring tool. A similar explanation was offered in

(Rashidah and Fairuzana 2006), who documented a positive relationship between the board size and the level of earnings management. The authors also suggested that larger boards are more likely to be entangled in the conflicts of interest, which may reduce their ability for monitoring. The positive association between the size of the audit committee and the magnitude of earnings manipulations was also reported for France (Baccouche, Hadriche, and Omri 2013); the scholars suggested that the capacity for control of the larger audit committee may be hampered by communication problems.

The relationship between the level of earnings management and the average number of other directorships held by audit committee members is also positive and statistically significant. In this case, the type of association (positive) was expected — the more other directorship a member of the audit committee has, the more busy he or she is, which might negatively influence the quality of the control over the company's financials. The result supports Hypothesis 9. Negative effects from the excessive busyness of the audit committee members might outweigh the benefits of obtaining additional experience and fostering expertise. Similar results were obtained in, for example, (Ferris and Liao 2019): in this paper, the scholars argue that it is the busyness of an audit committee (and not of the board or the CEO) that has the greatest impact on the level of earnings manipulations. As it was shown earlier in this study, one cannot draw a conclusion regarding the busyness of the board members, as this variable remained insignificant (see Table 6).

The variable of the level of financial sophistication ($AUDITEXP_{i,t}$) is also statistically significant. In all models, results indicate that Russian companies in which audit committees possess financial expertise are, on average, demonstrating a lower level of earnings management (Hypothesis 7 is accepted). This result shows that the directors who have proper qualification to understand and analyze financial statements might contribute to the effectiveness of the audit committee's oversight. Similar findings were reported by Bedard, Chtourou and Courteau (2004); the authors argued that the duties of monitoring and internal control cannot be fulfilled by the audit committee unless its members possess financial expertise. The same may be true for Russian companies. The significant results regarding financial expertise were also obtained in (Chen and Zhang 2014) for Chinese companies. The companies where officers of financial intermediaries were present in the audit committee also showed a lower level of earnings management in the study of Canadian firms (Park and Shin 2004).

The variable of the number of audit committee meetings is tested in the Model 8; however, it remains insignificant, thus making it impossible to draw conclusion regarding Hypothesis 6. Out of the control variables, the size of the firm still remains significant. The relationship between

earnings management and firm's leverage and return on assets of the company is also negative and significant. The external auditor variable that was added at this stage of the analysis is insignificant.

State ownership

As it was outlined previously, the subsamples by the type of ownership were analyzed separately. State-owned enterprises (SOEs) formed the first subsample, whereas private firms comprised the second subsample.

The starting point of the analysis here is the comparison of the earnings management levels between two groups. For this, t-test, which compares the means of two groups in order to determine whether the difference between them is significant, is conducted. The results are presented in the Table 8 below.

Table 8. T-test: earnings management for SOEs and private firms

	Subsample 1: state-owned enterprises	Subsample 2: private enterprises	Difference	Expected sign of difference	P-value (significance)
$AEM_{i,t}$	0,0451	0,0269	0,0182	+	0,000 (***)

Note: *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

$AEM_{i,t}$, which is the proxy for earnings management, is the variable of interest. As one can see, the average level of earnings management is higher for the subsample of state-owned enterprises than for the one of private firms. The hypothesis tested is that the difference between the population means of state-owned enterprises and private enterprises is positive (> 0). The t-test indicates that the difference in population means is statistically significant at 0.01 level. It means that the level of earnings management for Russian SOEs is higher than for Russian private firms.

The highlighted difference makes it logical to continue with the analysis and to estimate the audit committee models (which were previously discussed) for the two subsamples in order to find out whether there is a difference in the effects of the audit committee characteristics on the level of earnings management. Two different model specifications were estimated for each subsample (only the measures of the audit committee independence that were significant at the previous step were utilized). Table 9 below presents the results. Again, fixed effects models were chosen for all specifications after the Wald test, the Breusch-Pagan test and the Hausman test were performed.

Table 9. Multivariate regressions: audit committee characteristics, by subsamples

Variable	State-owned enterprises		Private enterprises	
	Model 9	Model 10	Model 11	Model 12
$SIZE_{i,t}$	-0,0053*** (0,0012)	-0,0047*** (0,0012)	-0,0040*** (0,0007)	-0,0040*** (0,0007)
$LEVERAGE_{i,t}$	-0,0001*** (0,0000)	-0,0001** (0,0000)	-0,0011*** (0,0004)	-0,0011*** (0,0004)
$ROA_{i,t}$	-0,0034 (0,0251)	0,0024 (0,0246)	-0,0212** (0,0091)	-0,0213** (0,0091)
$AUDITIND1_{i,t}$	-0,0021 (0,0036)	—	0,0001 (0,0031)	—
$AUDITIND50_{i,t}$	—	-0,0060 (0,0038)	—	-0,0016 (0,0029)
$AUDITSIZE_{i,t}$	0,0060*** (0,0013)	0,0054*** (0,0012)	0,0002 (0,0015)	0,0000 (0,0015)
$AUDITEXP_{i,t}$	-0,0035 (0,0037)	-0,0028 (0,0037)	-0,0061** (0,0025)	-0,0062** (0,0024)
$AUDITOTHER_{i,t}$	0,0025** (0,0010)	0,0023** (0,0011)	0,0024** (0,0011)	0,0026** (0,0011)
$EXTAUDIT_{i,t}$	-0,0051 (0,0031)	-0,0054* (0,0030)	-0,0001 (0,0026)	-0,0002 (0,0026)
<i>const</i>	0,1578*** (0,0308)	0,1459*** (0,0310)	0,1336*** (0,0172)	0,1344*** (0,0170)
F-statistic	12,53***	14,97***	8,47***	8,55***
R^2 (within)	0,3450	0,3558	0,1681	0,1691

Note: standard errors are given in brackets. *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

All models are statistically significant. The first striking difference between state-owned enterprises and private firms comes for the size of the audit committee ($AUDITSIZE_{i,t}$). For the SOEs, this variable remains significant (as it was in the previously discussed overall model). The association is positive: the larger the size of the committee, the higher the level of earnings management (other things being equal). However, for non-state-owned firms, the association is insignificant. The reason for this result might lie in the formal approach of the state-owned firms to the creation of the audit committee which may result in the large committees that are less suited to provide effective monitoring. Large audit committees, established for formal purposes, might also lack status within their firm that may be necessary to constrain opportunistic behavior of managers (for the research on status of the audit committee and its role in restraining earnings management, see (Badolato, Donelson, and Ege 2014)).

By contrast, the previous findings regarding financial expertise ($AUDITEXP_{i,t}$) hold only for private firms: for them, on average, the level of earnings management is lower if at least one

member of the audit committee possesses financial expertise. For SOEs, no significant association is found between those two variables.

Finally, the effect of the degree of busyness of the audit committee members remains significant and positive in both subsamples. For both SOEs and private firms, busier directors are associated with the larger magnitude of earnings manipulations. The negative associations between the level of earnings management and the firm's size and the degree of leverage also remain negative and significant.

2.5. Results discussion

Overall, the results suggest that both board of directors and audit committee play a significant role in restraining earnings management practices in Russian firms. It can be argued that the results broadly support a large arm of research that focuses on the monitoring role of those corporate governance mechanisms (see, for example, (Fama and Jensen 1983)).

The results indicate that in Russia, the composition of the board of directors is associated with earnings management. For Russian companies, the proportion of independent directors on board is negatively associated with the level of earnings manipulation. The same is true for the board size. Independent directors can provide more objective monitoring, whereas larger boards have more capacity to scrutinize the firm's financial reporting and might possess more relevant experience to properly conduct all necessary checks and controls. The results are in line with some extant research on other markets: for instance, the link between board independence and earnings management was shown in (Klein 2002) for the U.S., (Chen and Zhang 2014) for China or (Gonzalez and Garcia-Meca 2014) for South America. However, it is important to emphasize that the country specifics differ a lot: for instance, no association between the extent of earnings management and the independence of the board was documented for the U.K. firms. The negative connection between board size and the magnitude of earnings management was also documented before — in the U.S. (Ghosh, Marra, and Moon 2010) or Spain (Sierra García, Ruiz Barbadillo, and Orta Pérez 2012).

This study has primarily focused on the role of the audit committee, a board's arm specifically dedicated to serve as a watchdog for financial reporting quality and the audit process (Bruynseels and Cardinaels 2014). The audit committee characteristics are also connected with the level of earnings management for Russian firms. The mere presence of the functioning committee is important: Russian companies where the audit committee is established record lower levels of earnings management than the companies where there is no such committee. Again, these findings for Russia are similar to the findings for, for example, France (Piot and Janin 2007) or Australia (Baxter and Cotter 2009). The committee's independence is also related to the extent to which

earnings are managed. Russian firms where at least one audit committee member is independent and firms where at least 50% of the committee is independent show lower magnitude of earnings management. Similar results were obtained, for example, for Australia in (Davidson, Goodwin-Stewart, and Kent 2005). Interestingly, the results of the analysis for Russian firms indicate that 100% audit committee independence variable is not significant; Klein (2002) reported exactly the same result for the sample of U.S. firms.

Furthermore, for Russian firms, especially state-owned ones, there is a positive relationship between audit committee size and earnings manipulations. This result is more surprising, as most previous authors documented a negative link between the committee's size and the level of earnings management (e.g. see (Sierra García, Ruiz Barbadillo, and Orta Pérez 2012) for the study of Spanish companies). Very large committees — of up to 8 members — that are present in some of the Russian companies might be less effective in monitoring of the quality of financial statements, probably due to problems with the responsibility sharing or communications. Moreover, Russian firms (and SOEs in particular) may use a more formal approach to the establishment and functioning of the audit committee. The same positive effect of the audit committee size was documented in France (Baccouche, Hadriche, and Omri 2013).

By contrast, private firms in Russia where the audit committee has at least one member with the financial expertise report lower level of earnings management. Financial expertise allows directors to analyze financial statements and make informed judgements. It is especially important due to technical nature of some tasks performed to assess the quality of the information presented in the financial statements: financial experts can discover less prominent and more recurring treatments in the financial reporting (McDaniel, Martin, and Maines 2002). The finding regarding the presence of the financial experts in the audit committee for Russian firms is consistent with most of previous research: similar conclusions were drawn in (Bedard, Chtourou, and Courteau 2004) for the U.S. or (Chen and Zhang 2014) for China.

The aforementioned results regarding the comparison of state-owned enterprises and private firms highlight the peculiarity of the Russian market, where SOEs play a large role. Some previous researchers have shown that SOEs lag behind private firms in terms of, for example, productivity (Abramov, Radygin, and Chernova 2017). The differences between SOEs and private enterprises shown in this study might add to that evidence: Russian private firms demonstrate more “expected” (at least from the standpoint of the theory) connections between the attributes of the audit committee and the extent of earnings management: for example, they show lower extent of earnings management in case the financial expert is present in the audit committee (whereas for SOEs, the variable of expertise stays insignificant). SOEs may, by contrast, utilize more formal

approach to the formation and the functioning of the audit committee that might impact the way in which the committee's characteristics affect earnings management patterns.

Finally, the study found a significant positive association between the number of other directorships held by audit committee members and the extent of earnings management. Busy directors may allocate less time for oversight: this phenomenon was also demonstrated in many previous papers, e.g. in the cross-country analysis of Ferris and Liao (2019). The audit committee members of Russian firms that hold multiple director positions may lack time and capacity to be able to properly scrutinize their firms' financial statements.

The overall research results by hypotheses that were put forward in the Chapter 1 are presented in the Table 10 below.

Table 10. Research results

#	Hypothesis	Results
H1	Russian firms where the audit committee is present demonstrate a lower level of earnings management	Accepted
H2	Russian firms where the independent directors are present on board demonstrate a lower level of earnings management	Partially accepted
H3	Russian firms where the independent directors are present in the audit committee demonstrate a lower level of earnings management	Partially accepted
H4	For Russian firms, there is a negative association between the size of the board of directors and the level of earnings management	Accepted
H5	For Russian firms, there is a negative association between the size of the audit committee and the level of earnings management	Rejected
H6	For Russian firms, there is a negative association between the annual number of meetings of the audit committee members and the level of earnings management	No conclusion (insignificant)
H7	Russian firms where the members with the financial expertise are present in the audit committee demonstrate a lower level of earnings management	Accepted
H8	For Russian firms, there is a positive association between the number of other directorships of the board members and the level of earnings management	No conclusion (insignificant)
H9	For Russian firms, there is a positive association between the number of other directorships of the audit committee members and the level of earnings management	Accepted

The obtained results suggest that the investors should take into account corporate governance characteristics when choosing stocks they plan to invest in. Russian firms that follow "best practices" of corporate governance, such as, for instance, the presence of independence directors on board or the presence of the audit committee, may be a better option in terms of the

potential quality of financial reporting, which for outsiders is an important source of information about the company's performance and its long-term perspectives. The same holds for the presence of the audit committee, whose members ideally should possess financial expertise and not too many outside directorships. For investors, a meticulous analysis of the level of activity of the audit committee or the background of the audit committee members may be fruitful. By incorporating the characteristics of the board and audit committee in the decision-making, an investor can attempt to ensure the reliability of the crucial data coming from inside the firm. Given the large effect of the financial reporting figures on stock prices, it is certainly beneficial for investors to try to make sure that the published data are not window-dressed and manipulated. In the Russian context, the findings are especially relevant for the minority shareholders, for whom the good corporate governance system can serve as a signal for the lower likelihood of the possible future principal-principal conflicts related to the level of access to the firm's financial information.

Those who are in charge of corporate governance in Russian firms should be interested in the research results, as they demonstrate the importance of the specific attributes of the board and the audit committee in terms of the control of financial reporting. Managers and directors themselves may opt for changes in the corporate governance structures of their firms: for example, they should consider the establishment of the audit committee or the addition of the financial expert in the committee.

For Russian policymakers, the results might indicate that they are on the right track. The Code of Corporate Governance, the latest version of which was introduced by the Central Bank of Russia in 2014, incorporates the recommendations on many points mentioned in the study. For instance, it advises firms to include independent directors on board or to establish the audit committee with independent members in it. The findings also suggest that, for instance, a point about the financial expertise of at least one audit committee member could be added to the recommendations. Another point is the disclosure of information: given the importance of the presence of audit committee members with financial expertise, it might be useful to oblige companies to disclose their view on the expertise of the committee members (as the U.S. firms are already required to do). Finally, the regulators might think about the possible switch from "recommendations" to "requirements" at some point in the future. Since certain characteristics of the board or the audit committee help to ensure the quality of financial reporting, it might be useful to actually oblige Russian firms to introduce those elements into their corporate governance structures.

CONCLUSION

This thesis was aimed at investigating the impact of the attributes of the board of directors and the audit committee on the extent of earnings management of Russian firms. The goal of the thesis was to determine the association between the structure of the board of directors and the presence and composition of the audit committee and earnings management. Several interim tasks are completed in order to fulfill that goal.

In the Chapter 1, the phenomenon of earnings management was defined. The reasons for the existence of earnings management were presented and the difference between fraudulent, illegal earnings management and legal earnings management, which is made possible by the flexibilities provided by the accounting standards, was outlined. Strategies of earnings management were discussed, as well as the potential consequences of earnings management for outside stakeholders. Next, corporate governance mechanisms were introduced as a tool that could help to restrain earnings management. The board of directors and the audit committee, the key internal corporate governance mechanisms that are responsible for controlling the quality of financial statements, were described in detail. Finally, the findings of extant studies on different markets were presented and the hypotheses of this study were developed.

In the Chapter 2, the sample and the methodology of the study was outlined. The empirical research allowed to accept (at least partially) six out of nine hypotheses. The first set of models tested the possible connections between the attributes of the board and the extent of earnings management of the Russian firms. The results indicated that there is a negative association between the level of earnings management and, first, the percentage of independent directors on board and, second, the size of the board. The Russian firms where an audit committee is present also showed lower level of earnings management. The second set of models analyzed the attributes of the audit committee. The findings showed that firms where, first, the independent directors and, second, financial experts are present in the audit committee demonstrated a lower extent of earnings management. At the same time, the size of the committee and the number of other directorships of its members were positively associated with the level of earnings management. The final set of models was dedicated to the subsamples analysis. Two subsamples were created: one included the state-owned enterprises (SOEs), while the other included private firms. The results in this part showed that SOEs report a higher level of earnings management than private firms. Moreover, the previously detected positive association between the size of the audit committee and the level of earnings management held only for SOEs, whereas the presence of a financial expert seemed to impact the extent of earnings management only for private firms.

The results of the analysis were followed by three key recommendations. First, the recommendation to investors, who need to pay more attention to the corporate governance mechanisms that exist in the companies of their choice, was put forward. For this group of stakeholders, the quality of the financial information coming from within the firm may directly affect wealth. As it was highlighted, the use of the “best practices” of corporate governance by the firm may add credibility to the data published by it. Second, it was recommended to the managers and directors in charge of corporate governance to review their corporate governance structures: for instance, some managers or directors could consider establishing the audit committee. The third recommendation was targeted at policymakers who might be interested in the further development of the set of recommendations that exists in the latest version of the Code of Corporate Governance. For example, a proposal to add the point regarding the financial expertise of the audit committee members was put forward.

The analysis provided a contribution to the literature on earnings management and corporate governance mechanisms for Russian companies. Unlike most of the extant research on Russian firms, this study looked into the phenomenon of legal earnings management, i.e. manipulations that do not violate existing accounting standards. Moreover, the thesis represented one of the first studies of the attributes of the audit committees of Russian firms. Finally, the association between the characteristics of the board of directors and the audit committee proved to be country-specific in the previous research (the results are dependent on the regulatory and institutional context); thus, this study provides new evidence on this issue from the context of an emerging economy of Russia.

The study also has certain limitations. First, the sample of this study is limited by the number of Russian publicly traded firms (moreover, not all of them have an established and functioning audit committee). A study with a larger data set could provide even more insights; however, the possibility to conduct such a study for the Russian market will arise only as soon as the corporate governance practices will improve. The second limitation is related to the usage of discretionary accruals as a proxy for earnings management (see, for instance, (Klein 2002)). In line with most previous research, this study utilized the Jones model to calculate the discretionary accruals. In order to check the robustness of the results, this study also used the abnormal accruals from the modified Jones model, obtaining the same results. However, new ways to measure the extent to which firms manage their financial result could still contribute to the quality of all earnings management-related studies.

Finally, the study also spotlights several areas for further research. First of all, it is important to again emphasize that the standards of corporate governance and the existing “best

practices” are still being adopted by Russian firms. Many Russian companies (e.g. those that are currently at the third level of listing on Moscow Exchange) are still not obliged to establish an audit committee or to include independent directors in it. One can expect that the standards will continue to evolve and the existing corporate governance mechanisms will continue to be improved in Russia. Therefore, it might be useful to repeat this study in several years to spot changes and recognize whether the link between the magnitude of earnings management and the attributes of the board and the audit committee still exists.

Second, while this thesis was focused solely on the accrual-based earnings management (AEM), future researchers could also analyze the connection between the composition of the board of directors and the audit committee and real earnings management (REM) for Russian firms. This arm of research has only recently started to gain traction (see, for example, (Sun, Lan, and Liu 2014)). Interestingly, many researchers that studied the connection between the extent of real earnings management and the composition of the audit committee to date actually found no association between such characteristics as financial expertise or the presence of independent directors and the extent of real earnings management (Carcello et al. 2006; Sun, Lan, and Liu 2014). However, the evidence is limited at the moment, especially for the emerging markets. No study of real earnings management exists for Russian market.

Third, one could also try to include new variables in the presented analysis. Some new research in the area has recently been focused on softer factors that may impact the association between earnings management and the composition of the audit committee. For example, Badolato, Donelson and Ege (2014) investigated how the status of the audit committee members and the status of management team could affect earnings management: the researchers argue that even if the audit committee members have the needed expertise to spot manipulations, they also need enough authority to influence the process of financial statements preparation. The specificity of SOEs in Russia in terms of the link between corporate governance and earnings management also deserves further investigation. Another possible addition relates to the dependent variable: while this study looks at the extent of earnings management, some scholars also tried to distinguish between the income-increasing and income-decreasing earnings management (see, e.g., (Piot and Janin 2007)). Perhaps some audit committee structures are more suited to curbing specific types of manipulations.

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APPENDICES

Appendix 1. List of companies in the sample

Company name (in English)	Company name (in Russian)
Abrau-Durso	Абрау-Дюрсо
Aeroflot	Аэрофлот
AFK Sistema	АФК Система
Akron	Акрон
ALROSA	АЛРОСА
ALROSA-Nyurba	АЛРОСА-Нюрба
AMO ZIL	АМО ЗИЛ
Aptechnaya set 36.6	Аптeчная Сеть 36.6
Ashinskiy Metzavod	Ашинский Метзавод
Astrakhanskaya ESK	Астраханская энергосбытовая компания
Avtovaz	Автоваз
Bashinformsvyaz	Башинформсвязь
Bashneft	Башнефть
Belon	Белон
Beluga Grupp	Белуга Групп
Buryatzoloto	Бурятзолото
Chelyabenergosbyt	Челябэнергосбыт
Chelyabinsk TPZ	ЧТПЗ
Chelyabinsk Zinc Plant	ЧЦЗ
ChKPZ	ЧКПЗ
ChMK	ЧМК
ChZPSN-Profnastil	ЧЗПСН-Профнастил
CZP	СЗП
Dagestanskaya SK	Дагестанская энергосбытовая компания
DEK	ДЭК
Detskiy Mir	Детский мир
Diksi Group	Дикси Групп
Diod	Диод
Dorogobuzh	Дорогобуж
DZRD	ДЗРД
Elektrozink	Электроцинк
Enel Russia	Энел Россия
FSK EES	ФСК ЕЭС
Gals-Development	Галс-Девелопмент
GAZ	ГАЗ

Gazprom	Газпром
Gazprom Gasoraspredeleniye Rostov-on-Don	Газпром Газораспределение Ростов-на-Дону
Gazprom Neft	Газпром Нефть
Geotek Seysmorazvedka	Геотек Сейсморазведка
GK TNS Energo	ГК ТНС Энерго
GMK Norilskiy Nikel	ГМК Норильский Никель
Gruppa Cherkizovo	Группа Черкизово
GTL	GTL
Inter RAO	Интер РАО
Irkut	ИРКУТ
Irkutskenergo	Иркутскэнерго
ISKCh	ИСКЧ
Izhstal	Ижсталь
Kaluzhskaya SK	Калужская сбытовая компания
KAMAZ	КАМАЗ
Kamchatskenergo	Камчатскэнерго
Kazanorgsintez	Казаньоргсинтез
KGK	КГК
Khimprom	Химпром
KMZ	Косогорский МЗ (КМЗ)
Koks	Кокс
Kombinat Yuzhuralnikel	Комбинат Южуралникель
Korshunovskiy GOK	Коршуновский ГОК
Kostromskaya SK	Костромская СК
Kovrovskiy Mekhanicheskiy Zavod	Ковровский механический завод
Krasniy Oktyabr	Красный Октябрь
Krasnoyarskenergobyt	Красноярскэнергосбыт
КТК	КТК
Kubanenergo	Кубаньэнерго
KUSOZM	КУЗОЦМ
Kuybyshevazot	Куйбышевазот
Kvadra	Квадра
KZMS	КЗМС
Lenenergo	Ленэнерго
Lenta	Лента
Lenzoloto	Лензолото
Lipetskaya ESK	Липецкая ЭСК
Lukoil	Лукойл

M.Video	М.Видео
Magadanenergo	Магаданэнерго
Magnit	Магнит
Media Group Voyna I Mir	Медиа Группа Война и Мир
Mediakholding	Медиахолдинг
Megafon	МегаФон
MGTS	МГТС
MMK	ММК
MOESK	МОЭСК
Mordovskaya ESK	Мордовская ЭСК
Morion	Морион
Mosenergo	Мосэнерго
Mostotrest	Мостотрест
Motovilikhinskiye Zavody	Мотовилихинские Заводы
MPSK Severnogo Kavkaza	МРСК Северного Кавказа
MRSK Severo-Zapada	МРСК Северо-Запада
MRSK Sibiri	МРСК Сибири
MRSK Tsentra	МРСК Центра
MRSK Tsentra I Privolzhya	МРСК Центра и Приволжья
MRSK Urala	МРСК Урала
MRSK Volgi	МРСК Волги
MRSK Yuga	МРСК Юга
MTS	МТС
Murmanskaya TETS	Мурманская ТЭЦ
NEFAZ	Нефтекамский автозавод (НЕФАЗ)
Nizhnekamskneftekhim	Нижнекамскнефтехим
Nizhnekamskshina	Нижнекамскшина
NKKhP	НКХП
NLMK	НЛМК
NMTP	НМТП
NOVATEK	НОВАТЭК
NPO Nauka	НПО Наука
NPO Phisika	НПО Физика
OAK	ОАК
OGK-2	ОГК-2
OMPK	ОМПК
Omskshina	Омскшина
OTC Pharm	Отисифарм
OVK	Объединенная вагонная компания

Pavolvskiy Avtobus	Павловский Автобус
Permenergosbyt	Пермэнергосбыт
Pharmsintez	Фармсинтез
PhosAgro	Фосагро
PIK group	Группа Компаний ПИК
Polimetal	Полиметалл
Polyus	Полюс
Protek	Протек
RAO EES Vostoka	РАО ЕЭС Востока
Raspadskaya	Распадская
RBC	РБК
RKK Energiya	РКК Энергия
Rollman Group	Группа Компаний Роллман
Rosinter restaurants holding	Росинтер ресторантс холдинг
Rosneft	Роснефть
Rosseti	Россети
Rostelekom	Ростелеком
Rusal	Русал
Rusgaro	Русагро
Rushydro	Русгидро
Ruspolimet	Русполимет
Russkaya Akvakultura	Русская Аквакультура
RussNeft	РуссНефть
Ryazanskaya ESK	Рязанская ЭСК
Sakhalinenergo	Сахалинэнерго
Samaraenergo	Самараэнерго
Saratovenergo	Саратовэнерго
Saratovskiy NPZ	Саратовский НПЗ
Seligdar	Селигдар
Severstal	Северсталь
Slavneft–Meggionneftegaz	Славнефть–Мегионнефтегаз
Slavneft–Yanos	Славнефть–Янос
SMZ	СМЗ
SOLLERS	СОЛЛЕРС
Stavropolenergosbyt	Ставропольэнергосбыт
Surgutneftegaz	Сургутнефтегаз
Tambovskaya ESK	Тамбовская энергосбытовая компания
Tantal	Тантал
Tatneft	Татнефть

Tattelekom	Таттелеком
TGK-1	ТГК-1
TGK-14	ТГК-14
TGK-2	ТГК-2
TKZ Krasniy Kotelshchik	ТКЗ Красный Котельщик
TMK	ТМК
TNS Energo Kuban	ТНС Энерго Кубань
TNS Energo Mariy El	ТНС Энерго Марий Эл
TNS Energo NN	ТНС Энерго НН
TNS Energo Rostov-on-Don	ТНС Энерго Ростов-на-Дону
TNS Energo Voronezh	ТНС Энерго Воронеж
TNS Energo Yaroslavl	ТНС Энерго Ярославль
Transkonteyner	Трансконтейнер
TRK	ТРК
Tsentralniy Telegraph	Центральный Телеграф
Tuchkovskiy KSM	Тучковский КСМ
TZA	ТЗА (Туймазинский завод автобетоновозов)
Unipro	Юнипро
Uralkaliy	Уралкалий
Uralkuz	Уралкуз
Utair	Ютэйр
Varieganneftegaz	Варьеганнефтегаз
VKhZ	ВХЗ
Vladimirenergosbyt	Владимирэнергосбыт
Volgogradenergosbyt	Волгоградэнергосбыт
VSMPO-AVISMA	ВСМПО-АВИСМА
VSZ	ВСЗ
Yakutskenergo	Якутскэнерго
Yandex	Яндекс
YaTEK	ЯТЭК
Yuzhny Kuzbass	Южный Кузбасс
ZMZ	ЗМЗ
Zvezda	Звезда

Appendix 2. Jones model

Variable	Coefficient
$(1/TA)_{i,t}$	$-2.10 * 10^{-7}$
$SALES_TA_{i,t}$	-0.0429*
$PPE_TA_{i,t}$	-0.1379***
const	0.0423***
F-statistic	28.19***

Note: *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

Appendix 3. Modified Jones model

Variable	Coefficient
$(1/TA)_{i,t}$	$-2.12 * 10^{-7}$
$SALES_TA_{i,t} - ACCREC_TA_{i,t}$	-0.0497**
$PPE_TA_{i,t}$	-0.1368***
const	0.0419***
F-statistic	29.09***

Note: *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

Appendix 4. Correlation matrix: board of directors models

	$AEM_{i,t}$	$SIZE_{i,t}$	$LEVERAGE_{i,t}$	$ROA_{i,t}$	$AUDITCOM_{i,t}$	$BOARDIND1_{i,t}$	$BOARDIND2_{i,t}$	$BOARDINDSH_{i,t}$	$BOARDSIZE_{i,t}$	$BOARDOTHER_{i,t}$
$AEM_{i,t}$	1									
$SIZE_{i,t}$	-0,1162***	1								
$LEVERAGE_{i,t}$	-0,0146	0,0015	1							
$ROA_{i,t}$	-0,0755**	0,1413***	-0,0341	1						
$AUDITCOM_{i,t}$	-0,0770*	0,3800***	-0,0254	0,1034***	1					
$BOARDIND1_{i,t}$	-0,0032	0,2392***	-0,0308	0,1103***	0,3365***	1				
$BOARDIND2_{i,t}$	0,0050	0,2128***	-0,0238	0,1267***	0,2702***	0,8682***	1			
$BOARDINDSH_{i,t}$	-0,0616*	0,1300***	-0,0215	0,1121***	0,2821***	0,7822***	0,8243***	1		
$BOARDSIZE_{i,t}$	-0,0877**	0,5311***	-0,0047	-0,0058	0,3066***	0,3151***	0,2905***	0,0544	1	
$BOARDOTHER_{i,t}$	0,0201	0,1399***	0,0399	-0,0175	0,0221	-0,0617*	-0,0460	-0,1045	0,1092***	1

Note: *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

Appendix 5. Correlation matrix: audit committee models

	$AEM_{i,t}$	$SIZE_{i,t}$	$LEVERAGE_{i,t}$	$ROA_{i,t}$	$AUDITIND1_{i,t}$	$AUDITIND50_{i,t}$	$AUDITIND100_{i,t}$	$AUDITSIZE_{i,t}$	$AUDITEXP_{i,t}$	$AUDITOTHER_{i,t}$	$AUDITMEET_{i,t}$	$EXTAUDIT_{i,t}$
$AEM_{i,t}$	1											
$SIZE_{i,t}$	-0,1162***	1										
$LEVERAGE_{i,t}$	-0,0146	0,0015	1									
$ROA_{i,t}$	-0,0755**	0,1413***	-0,0341	1								
$AUDITIND1_{i,t}$	-0,1402***	0,1321***	0,0252	0,0663	1							
$AUDITIND50_{i,t}$	-0,3079***	0,1708***	0,0401	0,1567***	0,6642***	1						
$AUDITIND100_{i,t}$	-0,1393**	0,1546***	0,0782	0,1687***	0,3360***	0,5060	1					
$AUDITSIZE_{i,t}$	0,2860***	0,0475	-0,0241	-0,1027**	-0,0458	-0,3130	-0,3090***	1				
$AUDITEXP_{i,t}$	-0,1263***	0,0879*	-0,0311	0,0783	0,1266	0,1245***	0,0655	-0,0638	1			
$AUDITOTHER_{i,t}$	0,2020***	0,3856***	-0,0270	-0,0167	0,0374	-0,0233	0,0274	0,1087**	0,1242***	1		
$AUDITMEET_{i,t}$	0,0258	0,2233***	-0,0514	-0,1248**	0,0929	-0,0784	-0,0073	0,1935***	0,0380	0,1970***	1	
$EXTAUDIT_{i,t}$	-0,0998***	0,4524***	0,0063	0,1011***	0,1547	0,1318***	0,1582***	0,0008	0,1493***	0,2471***	0,1592***	1

Note: *, ** and *** indicate the level of significance of 0.1, 0.05 and 0.01, respectively.

Appendix 6. Variance inflation factors: board of directors models

Variable	Model 1	Model 2	Model 3	Model 4
<i>SIZE_{i,t}</i>	1.90	2.13	2.14	2.13
<i>LEVERAGE_{i,t}</i>	1.00	1.01	1.01	1.01
<i>ROA_{i,t}</i>	1.02	1.06	1.06	1.06
<i>AUDITCOM_{i,t}</i>	1.89	2.51	2.32	2.15
<i>BOARDIND1_{i,t}</i>	—	1.67	—	—
<i>BOARDIND2_{i,t}</i>	—	—	1.49	—
<i>BOARDINDSH_{i,t}</i>	—	—	—	1.21
<i>BOARDSIZE_{i,t}</i>	—	1.54	1.54	1.58
<i>BOARDOTHER_{i,t}</i>	—	1.04	1.04	1.05

Appendix 7. Variance inflation factors: audit committee models

Variable	Model 5	Model 6	Model 7	Model 8
<i>SIZE_{i,t}</i>	1.23	1.27	1.25	1.38
<i>LEVERAGE_{i,t}</i>	1.02	1.02	1.03	1.03
<i>ROA_{i,t}</i>	1.03	1.05	1.06	1.13
<i>AUDITIND1_{i,t}</i>	1.05	—	—	1.10
<i>AUDITIND50_{i,t}</i>	—	1.22	—	—
<i>AUDITIND100_{i,t}</i>	—	—	1.21	—
<i>AUDITSIZE_{i,t}</i>	1.02	1.13	1.14	1.07
<i>AUDITEXP_{i,t}</i>	1.05	1.04	1.03	1.04
<i>AUDITOTHER_{i,t}</i>	1.20	1.21	1.20	1.24
<i>AUDITMEET_{i,t}</i>	—	—	—	1.14
<i>EXTAUDIT_{i,t}</i>	1.14	1.13	1.14	1.20